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## ORIGINAL ARTICLES.

### UTERINE OSMOSIS.

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AMONG the principal modern discoveries that have contributed to the preëminence of gynecology we recognize especially those of anesthesia, antiseptics, and the adaptation of atmospheric pressure as utilized by the illustrious Sims in the application of his duck-bill speculum.

The object of this paper is to call attention to the availability of certain other physical forces—those of translatory molecular motion, and known as osmosis and capillarity—as most efficient aids in the treatment, and as *preventives*, by early treatment, of some of the diseases peculiar to women, that, once developed, are incurable by any device of surgery.

It has been repeatedly demonstrated in practice that these laws may be made as successfully operative for curative purposes in all conditions of disease of the female pelvic organs characterized by *congestion* or *engorgement* as they can be illustrated by osmotic apparatus in the laboratory.

The human system abounds in capillary materials that have, to a limited extent, been utilized by the physician, notably in effecting medication by the hypodermatic syringe and in vaccination.

The same principle that governs the absorption of medicine placed among the lymphatics anywhere under the skin may be made operative among the same class of vessels under the mucous surfaces, through which they communicate by myriads of infinitesimal pores.

The lymphatic system, as is well known, has long been regarded as the principal group of vessels accomplishing absorption.

It was vaguely hinted at as having some form of existence, undefined and without its present name, as long ago as in the time of Hippocrates and Aristotle, and has since engaged the best efforts of the ablest anatomists and physiologists in the successive centuries and among all enlightened nationalities, working out to its present status our knowledge of this system as a unity.

That no valvular arrangement is found in the most numerous, smallest, and peripheral lymphatic vessels is favorable to making use of them for osmotic purposes.

The lymphatics are remarkable for their exuberance and anastomoses, especially in the female intrapelvic organs. Profusely, however, as they are distributed in and around the uterus, they are even more abundant in and around the ovaries.

These innumerable lymphatic vessels form infinite inosculations and merge into more tangible branches.

Branches from the cervix, together with branches from the vagina, coalesce to form trunks that enter the internal iliac and sacral glands, and branches from the uterus, ovaries, Fallopian tubes, and rectum also converge and enter the lumbar glands.

These intercommunicating lymphatic channels form a circuit through which osmosis of the uterus and vagina reaches neighboring organs involved in congested conditions requiring treatment.

Endosmosis of medicated fluids at the uterine and vaginal point of these congeries or anastomoses of lymphatics will influence the entire circle; and simultaneous exosmosis will, in its turn, effect drainage and depletion, not only of those parts to which the medicinal application is immediately in contact, but others adjoining them.

That portion of the vascular system next in importance for the purposes we are considering is the capillary system of bloodvessels.

Some physiologists claim that these networks of minute tubes connecting the terminations of the arteries with the beginnings of the veins exercise a greater power of absorption than the lymphatics.

It is sufficient that both, being all-pervading and intermingling in unnumbered myriads, are equally subject to the laws of capillarity and osmosis.

The endosmometer, as illustrated in works on physics, is a very simple contrivance, but it explains some of the most important of Nature's laws.

Many interesting experiments are illustrated in works on physics demonstrating the phenomena of osmosis, and others concerning the double current of different liquids passing each other in opposite directions through the same tube, of even the finest possible bore, under the combined influence of capillarity and diffusion.

The general law is that when endosmosis is in operation exosmosis is also present; but, exceptionally, in some cases, movement is only in one direction.

The simple movement of exosmosis is strikingly illustrated by the action of glycerin upon the

mucous surfaces of the os and cervix uteri, inducing a profuse outpour of serum.

For many years advantage has been taken of this to deplete the uterus, so as to gain absorption of medicines locally applied, upon the principle that prompted physicians of the olden time to bleed their patients just before giving medicine, to promote its absorption.

The other half of this problem, however the fact that the uterus is susceptible of medication by endosmosis, is a discovery of recent date, especially as to the capacity of this organ to be operated upon by both osmotic forces simultaneously.

In the artificial endosmometer we have a membrane interposed between two liquids of different density. A double current sets in, each liquid passing the other at the same time, on its way through the capillary tubes or pores of the membrane.

It is well known that in the anatomy of the female, the mucous membrane of the vagina, of the os, of the cervix, of the cavity of the uterus, and of the Fallopian tubes, is one continuous expanse of capillary orifices, living, absorbing tubes or pores.

This membranous expanse of living orifices comprising the mucous surfaces stands, in the *human* endosmometer we purpose to demonstrate, in the same relation as to mechanism as the dead membrane in the artificial endosmometer occupies, and the living membrane is correspondingly more active for osmotic work.

It is only necessary, in order to institute osmotic operations upon the uterus, to complete the relations suitable for maintaining medicated fluid in direct apposition with the mucous membrane of the organ by means of a material composed of soft, porous, clustered tubes in which capillary action may take place.

For this purpose nothing has, so far, been found superior to the fine Syrian sponge made surgically clean, bleached, and kept for use in antiseptic fluid until required.

By bringing such a sponge into contact with the os, the cervix, and the vagina, we have multitudes of capillary tubes on each side of a living membrane, itself permeated by myriads of infinitesimal pores; the whole forming a superior endosmometer, and, if the sponge *in situ* is saturated with a suitable fluid of low density the phenomena of osmosis becomes demonstrable.

Experience has amply demonstrated that, with these relations maintained, endosmosis of an aqueous medicated fluid in the sponge occurs; this being of lower density passes through the pores of the mucous membrane, to be absorbed by the lymphatic and capillary vessels of the organs. At the same time, exosmosis of the heavier fluid-deposits incident to congestion or inflammation takes place, the excretions passing out into the sponge.

We thus form an endosmometer within the vagina, which will simultaneously medicate and drain the entire circle of lymphatic and capillary inosculation in the pelvis.

The osmotic properties of sponge were, several years ago, referred to by Dr. McCourt of New York.

Since then cases have presented in my practice in which it seemed desirable to facilitate relief of more deeply-seated engorgements of the pelvic organs by extending osmotic influences more directly within the recesses of the uterus and Fallopian tubes than the sponge alone could reach.

This I accomplished by introducing through the cervix a small spiral-wire tube covered with a woven texture, and containing within its caliber capillary filaments constituting a wick, each extremity projecting beyond the tube about half an inch.

This tube being passed within the os internum, the capillary filaments rest upon the intra-uterine mucous surface, while the saturated sponge, being placed *in situ*, holds the lower extremities of the filaments; and capillarity and endosmosis convey the fluid from the sponge up within, to be diffused upon and absorbed by the endometrium. The tube is made slightly bulbous at the extremity to be introduced, and of a length to just pass through the cervix. The bulb aids retention and the spiral form preserves the filiform wick from being pressed upon in its caliber.

The extremities of this wick extend beyond the spiral tube, so that the upper one lies in direct contact with the endometrium, while the lower end is imbedded in the saturated sponge placed against the os and cervix.

By this arrangement osmosis is brought into play upon the endometrium and Fallopian tubes directly, while it does not interfere with the same process going on between the sponge and the vaginal portion of the uterus.

As the fluid in the sponge is drawn up the wick by capillary attraction it becomes diffused slowly upon the mucous lining of the uterine cavity and Fallopian tubes, to become absorbed by their vessels, and we get direct endosmosis and exosmosis without any shock, as is so liable to follow injection of fluids into the uterine cavity by using a syringe.

It has been of common occurrence in cases of chronic congestion and inflammation of the uterus and its adnexa, upon the removal of this apparatus—after about twenty-four hours—to find it saturated with puriform, sanious, or mixed excretions; and this, too, when the most careful examination of all of its surfaces visible by the Sims method failed to find an ulcer or other solution of continuity to account for the puriform discharge.

The purulent or other product found in the apparatus represents the *exchange* effected during

osmosis, the liquid of lighter density passing inward, while the liquid of heavier density passes outward from the diseased tissues.

It might seem that it would be difficult to use the intra-uterine capillary tube, but the very conditions of disease of the uterus especially requiring this plan of medication and drainage are accompanied by dilatation of the os, cervix, and the uterine cavity.

It is, in addition, an important element of the law of capillarity that it works in a vacuum, or without reference to the presence of air, quite as well as in open space, even assuming that the closed uterus could maintain a vacuum.

The filiform fibers constituting the wick in the intra-uterine spiral-wire tube will raise the fluid from the saturated sponge in contact with the endometrium and the orifices of the Fallopian tubes with as much ease as the wick in the familiar house-lamp serves to raise even a heavy oil to a height of several inches; or, as the osmotic action causes the ascent of sap in trees.

In practice, water and alcohol, our best solvents for the remedies most available in osmotic medication, are, fortunately, the fluids most susceptible to osmotic influence.

Local medication of the uterus in the old routine is nearly useless in cases of marked version or flexion of the organ causing a degree of bending and compression sufficient to keep up engorgement. In such cases the capillary spiral tube not only maintains the cervical canal patulous, but the sponge may be utilized both as a pessary and as a fountain for osmosis.

The sponge to be used as a pessary is first to be wrung out of the medicated fluid as nearly dry as possible, and, after being placed *in situ*, a long-nozzled syringe is to be used to saturate it with the fluid.

The distention of the sponge by the fluid maintains the uterus upon a soft, elastic support, much superior to many other more expensive appliances for this purpose.

It is manifestly impracticable, in the limits of this paper, to enter into a detail of all the conditions treated in works on gynecology and point out specifically wherein this system of osmotic treatment may be beneficially substituted for the old routine.

We are justified in stating that the osmotic plan of treatment is indicated in *all* stages of congestion, engorgement, or inflammation of the vagina, uterus, Fallopian tubes, ovaries, peritoneum, rectum, or other tissues whose lymphatic and capillary vessels anastomose with those of the vagina and uterus.

Osmosis of the two last-named organs will similarly influence the others.

If we were to specify conditions in which an im-

provement in treatment has long been sought, we would say that those of ovarian inflammation, puerperal septicemia, and the engorgement incident to subinvolution are conspicuous and are influenced by osmosis more than by any other plan of medication.

Speaking of the prognosis of chronic ovaritis, Prof. Thomas makes the following admission: "I know of few curable disorders which I so dread to meet as this. The day will probably come when our treatment for it will be satisfactory and efficient, but it has not yet done so by any means. Many cases will entirely baffle treatment, while all will prove little amenable to it. That they often recover is true, but recoveries have, in my experience, but little connection with treatment."

In the matter of treatment Prof. Thomas expresses regret that he has nothing better to offer than the old methods, and concludes as follows: "It is now six years since the publication of the last edition of this work (*Diseases of Women*), and during that time no disease has more especially commanded my close scrutiny than this, and yet, in an amended edition after that lapse of time, I find myself unable to offer any improvement upon what was written then."

Regarding the prognosis given by Dr. Thomas that "the day will probably come when treatment of ovarian inflammations will be satisfactory and efficient," it is our conviction, based upon experience, that the day *has come* and that the "satisfactory and efficient" treatment of ovaritis is that by medical osmosis.

It is our belief further that this osmotic plan of medication will prove of great value as a prophylactic, preventing septicemia, through the prompt neutralization of septic conditions such as arise in puerperal and syphilitic cases, and, by equally prompt relief of conditions of engorgement of the pelvic organs will prevent disorganization of tissues, which, being allowed to happen, forms the starting-point of abnormal growths, and these, if there be constitutional predisposition, are liable to degenerate from benign into carcinomatous tumors.

Ninety per cent. of cases of puerperal fever occur within three days after confinement.

In endometritis following puerperal infection the after-pains are unusually severe; the lochial discharges become retarded and fetid; the temperature, following a chill, rises often to 104° or higher; the pulse, small and hard, increases from the normal to 120 or even 160 beats in the minute.

When, in any case, after confinement, symptoms of septic intoxication occur, at once flush the vagina with antiseptic douches, and, by the use of the wire curette and the applicator, remove the debris—such as particles of placenta and plugs of bloody mucus

—from the neck and the body of the womb and apply the sponge saturated with an anodyne and an antiseptic solution to the os and cervix.

Osmosis of the uterus will be effected, causing the lochial flow to be resumed, its fetor to disappear by the antiseptics, and the temperature and pulse to become reduced as the medication and drainage of the uterine cavity proceed.

In such cases the sponge should, for the first few days, be removed at least night and morning, and be cleansed by washing in water (containing spirit of ammonia), carbolyzed, re-medicated with an aqueous solution of carbolic acid, morphine, and glycerin, or other suitable mixture, as the physician may elect, and replaced in direct contact with the os and cervix, to maintain osmosis.

The anodyne-antiseptic mixture should, between replacements, be occasionally injected to keep the sponge *in situ* saturated as well as to promote vaginal cleanliness.

Post-mortem examinations by Championnier, Leopold, and others, show that in puerperal inflammations the lymphatics are commonly filled with pus; and, according to Courty, chronic inflammation of the female pelvic organs confined almost to the lymphatics themselves, of this region, is a common occurrence. Hence the importance of promptly unloading these vessels and relieving the engorgement of the uterus, so as to arrest local disorganization and neutralize blood-poisoning.

I have no doubt that morbid growths have their origin in some one or more of the involved lymphatic or capillary tubes that become obstructed during protracted congestion, and, unable to float away the clog, disorganization follows.

It would thus seem easy to account for the frequency of such morbid growths in the uterus and ovaries, considering the great number of women who suffer repeatedly from protracted congestions of these organs during the years from puberty to the menopause.

If these repetitions of congestions do, in time, constitute the focus of an abnormal growth in the uterus, the ovaries, or in some contiguous tissues, it follows that, if the congestions are promptly relieved or prevented by osmotic treatment from becoming protracted, there may be fewer women in the future applying for the removal of tumors and carcinomatous growths by surgical measures.

We cannot too strongly emphasize our belief that the intelligent employment of the osmotic plan of treatment set forth will, in time, be found to have lessened the records of uterine and ovarian cases applying for surgical relief.

There is no restraint in the matter of remedies. The physician can choose among the list of antiseptics, anodynes, alteratives, etc., that experience

has found useful in regular routine. He must, however, observe the laws of osmosis, which are open to all to study, and a reasonable amount of practice will soon perfect the average practitioner in the management of the uncomplicated apparatus described.

236 WEST THIRTY-FOURTH STREET.

### SOME POINTS IN THE EARLY DIAGNOSIS OF VERTEBRAL TUBERCULOSIS.<sup>1</sup>

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PERHAPS an apology is due for presenting so old a subject as Pott's disease of the spine, or, as I prefer to call it, vertebral tuberculosis. But my excuse is twofold: first, the extreme importance of the subject itself; and secondly, the fact that so many cases present themselves to me in both dispensary and private practice, with marked deformity, which have been treated for weeks and months by various physicians, without the true nature of the trouble having been suspected. When one sees a case of caries of the vertebræ in the dorsal region, that has been treated for six months as a case of dyspepsia, because the child complained of pain in the epigastrium, until finally the parents themselves discovered the projection; or still another with an abscess as large as a good-sized orange projecting in the lumbar region, that has been treated for lumbarago, there is a feeling that a little more light on the subject, even candle-light, may not be wasted. The two cases referred to were not in the hands of ignorant men, but in those of well-posted general practitioners, one of whom has a large hospital experience.

Often a mistake is made, as I think, in these cases, from a lack of thorough and careful examination. All cases in which there is the slightest suspicion of possible disease of the spine should be examined most carefully. In my opinion, the physician who does not strip and examine from head to foot a child that is brought to him with a history of persistent pain or peculiarity of attitude or gait is guilty of criminal negligence. It is just such superficial and careless work in the past that has contributed to the large number of deformed and crippled beings that constitute a crying reproach to our profession.

It is an easy matter to diagnosticate vertebral tuberculosis when there is a prominent deformity of the back or when an abscess is present; but when that time has come, great destruction of tissue has taken place, and the chances for a favorable result from treatment are greatly diminished.

I grant that it is often extremely difficult to make a positive diagnosis in the early stages of the dis-

<sup>1</sup> Read before the Harlem Medical Association, April 6, 1892.

case, and that men of experience sometimes err; but the disease is not of such a nature as to require a hasty opinion. Plenty of time can be taken to study and watch the case, and if the symptoms are suspicious, keep it under observation. Don't, I beg, dismiss it in an off-hand way, saying to the parents that it is probably "rheumatism or growing-pains."

The points that I shall try to bring out in this paper I do not claim as original. They represent the result of the instruction and experience obtained during the past eight years in observing a large number of cases at the New York Orthopedic Hospital and Dispensary.

Before taking up the subject proper of my paper, I desire to say a few words in regard to a term that I shall have occasion to use several times, and which seems to be only imperfectly understood and appreciated by the profession in general. I refer to reflex muscular spasm, and consider it the one most important symptom not only of spondylitis, but of chronic disease of the other joints in the early stage. By it I mean a tonic spasm or contraction of all of the muscles in relation to a diseased joint, by which Nature endeavors as much as possible to protect the joint from the traumatism of motion. It is present only in those muscles that act upon the diseased articulation or vertebræ; it is almost without exception an expression of bone-inflammation; it is the first symptom to appear, and persists until complete healing has taken place. It can be discovered in two ways: sometimes by the rigidity of the muscles appreciable to the touch, but more surely by an attempt to move the joint involved.

In some cases in which the disease is extensive or acute, the slightest attempt at motion is met with resistance, and you can feel the muscles quiver under your fingers, while the patient suffers no pain if the limb is handled carefully; in others a certain range of motion is allowed with perfect freedom, but a point is always reached where the muscles say, "Thus far and no farther shalt thou go." That this resistance is purely reflex can be proved by the administration of an anesthetic, when motion will be perfectly free. It is difficult to describe just the sensation which this condition gives to the examiner, and it requires some experience to differentiate it from the voluntary resistance of a frightened and crying child.

Passing now to the direct subject of my paper, I will first consider the history of the case as an element in the early diagnosis. This is generally mentioned in text-books as quite important, but my experience has taught me to place very little reliance upon it. There can be scarcely a question in the mind of anyone who has studied the recent investigations in the pathology of vertebral caries that the process is tuberculous. But this does not imply that the child must necessarily have had tuberculous

ancestors, or previously have shown evidence of ill-health. It is true that close questioning will probably reveal some cases of tuberculosis on one or the other side of the family, but the same is no doubt true of children that have no disease of the vertebræ. The sources of infection by the tubercle-bacillus are so varied and numerous that there is no necessity for seeking a further direct cause.

Traumatism also does not play the exclusive part supposed by some authors, and it is uncommon at the dispensary to obtain a history of any severe injury to the spine. Yet, in all probability traumatism is in most cases the direct predisposing cause of the development of the tuberculous inflammation; but it is a traumatism so slight as to produce no impression on the parents' minds, or as not to cause the child to suffer pain at the time.

In my opinion, a slight but oft-repeated traumatism is a more important factor than a single severe injury. Though the injury may be slight, yet it is sufficient to cause an extravasation in the highly vascular structure of the body of a vertebra, which forms a home for the lodgment of tubercle-bacilli, which then begin their destructive process. But it is usually many weeks after the injury that any symptoms are noticed, for the action of these organisms is exceedingly slow. Therefore, the history of tuberculosis in the family and of a distinct traumatism is of value when obtained; but the absence of both, with the presence of decided symptoms, should have no influence in determining the diagnosis.

As a matter of fact, in the early stage of vertebral caries, as well as in chronic disease of the other joints, the presence or absence of any one symptom is not sufficient to determine the true nature of the trouble. It is only by a careful grouping of symptoms and objective signs that a positive conclusion can be arrived at, and these latter are in children much more important than either the history or subjective symptoms.

For clinical purposes we may divide the spinal column into three regions, differing somewhat from the usual anatomic division. The first consists of the cervical and upper three dorsal vertebræ; the second extends from the fourth to the tenth dorsal, inclusive; and the third comprises the remainder of the column.

The early signs of disease will vary greatly in accordance with the region in which it is situated. The upper region is the one of greatest range of motion; numerous and powerful muscles are either attached to the vertebræ themselves or pass up on either side to attach the head to the trunk and assist the spine in giving the former firm support. We might naturally expect, therefore, that inflammation of the vertebræ in this region would call very

early upon these muscles for protection against motion and traumatism, and this we find to be the case. As a rule, the first symptom or sign noticed by the parents is that the child carries its head stiffly, and frequently places one hand under the chin for support, complaining perhaps of being tired, but not of actual pain. There may be no deformity, and the head may be held erect, but if the disease be situated high up, involving the first, second, or third vertebra, and the child is asked to look to the right or left, the whole body will be turned to accomplish the act.

If the inflammation is further down, rotation may be easily performed, but flexion and extension will be either *nil* or greatly limited. In many cases there is deformity, the head being twisted to one side or the other, in a position very much resembling that of torticollis.

So close is the resemblance often to this disease that many cases of caries have been treated with liniments, etc., and cases are on record in which the muscles have been divided. A point of difference is that in torticollis the chin is turned away from the contracted side, while in Pott's disease the reverse is the case. In some cases, particularly in young babies, the head is thrown back in extreme extension, and is rigidly held in that position.

In any of these cases, whether deformity is present or not, if the trunk is fixed and an attempt is made to move the head in all directions, sometimes at once, and in all cases before normal motion is completed, there will be resistance to further motion, and the sensation of a spasm of the muscles will be felt, while an expression of apprehension will pass over the child's face, even though no actual pain is suffered.

Placing one hand under the chin and the other under the occiput, giving firm support, and then making gentle traction in the line of deformity, will usually give relief.

Among older children there is sometimes a complaint of pain in the back of the neck and head, but this is not constant, and a careful examination will generally reveal a slight projection or thickening around the diseased vertebrae, showing that the inflammation has existed for some time. The projection into the pharynx, and difficulty in deglutition, which in some text-books are pointed out as important symptoms, I have seldom found, and then only at a late stage of the disease.

It is in the second region that we find the greatest difficulty in making an early diagnosis as well as in carrying out efficient treatment. This portion of the spine, locked by firm attachments to the ribs, possesses the least mobility, and hence we cannot depend upon early manifestations of reflex spasm in the muscles. For this reason, we seldom see

cases of disease in this locality before some deformity presents in the slight projection of one or more spinous processes. There are, however, certain well-marked early signs to which I wish to call attention.

A stiffness of carriage, with a tendency to hold the spine very erect, coupled with a disinclination on the part of the child to engage in active sports, is frequently noticed. Pain in the epigastrium, or anterior portion of the chest, is a frequent sign of disease in this second region, owing to pressure on the roots of the nerves, and a persistent pain in these regions should always call for a thorough examination of the spine. If the child is stripped and carefully watched during respiration, it will be noted that the respiratory movements are largely abdominal, the muscles of the chest being held quite rigid in order to prevent motion of the ribs as much as possible.

Where the disease is limited to one vertebra, a marked difference in the motion of the ribs attached to it, as compared with that of the other ribs, is often observed. In young children a grunting respiration is strongly indicative of disease of the spine in this region. Lateral pressure on the chest at the suspected point frequently causes pain.

In a certain proportion of cases there are no symptoms of a subjective character, and the discovery of the kyphosis by the mother is the first intimation of any trouble. For this reason it is a wise measure to instruct mothers to examine the backs of their children at least once a week.

But the presence of deformity is not always proof-positive of disease. Not long ago a child, about three years of age, was brought to the dispensary by its father, who had discovered a sharp projection in the mid-dorsal spine. There was no history of injury, the child was apparently well, complained of no pain, and played about as other children did. When the little girl was stripped, as characteristic a kyphosis as is usually seen in the early stage of Pott's disease, was plainly visible. It seemed to be confined to the spinous process of one vertebra. Careful examination, however, showed no muscular rigidity, the ribs moved freely, the spine could be flexed and extended, and there was no stiffness in walking. From the absence of these symptoms I was inclined to be doubtful, in spite of the kyphosis. The child was seen by others of the staff, and at different times, and finally a diagnosis was agreed upon. An apparatus was ordered, and while it was being made the child played about as usual. At the end of about two weeks the father was notified to come for the brace. He did so; the child was stripped and placed upon a table, but to my utter astonishment the kyphosis had entirely disappeared. What it was or what became of it I cannot say.

When we reach the last division of the spine we find a region of mobility exceeded in degree only by the cervical region.

It is natural to expect, therefore, to have the presence of disease here indicated by symptoms referable to the muscles acting upon this portion of the spine. We find this to be the case. The muscles attached to the lumbar and lower dorsal vertebrae are all put in the condition which I have described as reflex spasm. The muscles become rigidly contracted, and hold the spine in a position to give it the greatest possible protection from traumatism. This is apparent to even a casual observer, and the mother will often say that she has noticed for some time that the child has held its back stiff in walking, has taken short steps, being particularly careful not to step down from small heights quickly, or to go over rough places, and if possible to avoid them. When, too, it stoops to pick up various articles, it does so in a peculiar manner. Instead of bending over so that the spine is flexed, it is held rigid, and the movement is executed by flexion of the knees. To regain the erect posture usually one hand is placed upon the thigh. This movement is very characteristic, and when present caries of the lumbar vertebrae should always be suspected.

Examining the child in the erect position, no deformity may be noticed, but, owing to the rigidity and spasm of the lumbar muscles, it will be impossible for the child to bend forward while holding the knees straight. After this examination, the child should be placed in the prone position upon a flat surface, and with one hand upon the dorsal region and the other grasping the legs, attempt to hyperextend the spine. The normal spine in children is exceedingly flexible, and the pelvis can be raised to some height from the table and swung laterally; but if there is disease in the lumbar or lower dorsal region, reflex spasm is immediately excited, and no motion of the spine is permitted.

The next test consists in the attempt to extend both thighs with the pelvis held firmly upon the table. With disease present on one side or the other, complete extension of the thigh will be limited, and spasmodic contraction of the muscles will be felt. Care must be taken that the thigh is rotated inward during this test. The resistance is due to contraction of the psoas and iliacus muscles, which I consider as one. Their attachments are to the lower dorsal and lumbar vertebrae above, and to the lesser trochanter of the femur below, and their function is to flex and rotate the thigh outward. When the thigh is extended and rotated in, this muscle is made tense and immediately responds by spasm, if there is disease at its origin. The same sign is observed in hip-joint disease, and mistakes

in diagnosis are sometimes made, particularly if the contraction is sufficient to cause flexion of the thigh to a position often seen in hip-joint disease, and producing a limp which resembles that of the latter disease very closely. But in hip-disease there is limitation of motion in all other directions also, while in spinal caries flexion, adduction, abduction, and rotation are nearly normal. This is a very valuable diagnostic sign of disease in the third region of the spine, but it is possible to find it with some other conditions. There may be a psoas abscess independently of bone-disease, and consequent psoas contraction, but the spine will not be held fixed to resist motion in every direction. Acute disease of the pelvic organs may produce it, but generally the history and other symptoms will make the diagnosis clear. When psoas contraction is present, if the patient be placed upon the back with the knees elevated, deep pressure into the pelvis will generally show more or less fullness on the side of the contraction, with some tenderness. This may be slight and difficult to detect, or there may be evidence of a distinct tumor, with deep fluctuation.

Occasionally a lateral deviation of the spine is noted, without any kyphosis being present. In such a case it is possible to make the mistake of diagnosing lateral curvature; but the rigidity of the spine and the psoas contraction, which are not present in lateral curvature, make the diagnosis comparatively easy.

In young children we sometimes see a rachitic condition of the spine that closely resembles Pott's disease in this region. When the child stands or sits, there is a projection of the vertebrae that does not entirely disappear even when the prone position is taken. There is also some rigidity of the spine when an attempt to extend the spine is made, but there is no psoas resistance, and the marked evidence of rachitis in other portions of the body will be found. These backs are all benefited by support, so that an error in diagnosis is not serious.

Of course, we have the various manifestations of hysteria that give symptoms of disease in all of the regions, even to muscular rigidity and reflex spasm. The discrimination is often difficult, but in a suspected case many and careful observations, under varying conditions, will generally clear up the diagnosis; in any event, in a doubtful case it is better to be on the safe side, and treat it as one of real disease.

It may be noticed that I have not mentioned a symptom usually found in all the text-books, and considered very important, viz., tenderness on pressure or percussion over the spines of the affected vertebrae. I have omitted it purposely, because I consider it a symptom of no value whatever. It is rarely present, and never in the early stages of the disease. In

fact, when I see a case that presents a great amount of tenderness over the spine, I am generally positive that it is not Pott's disease, but spinal-cord irritation.

In older children and adults the pain produced by a sudden jar to the spine in stepping down quickly from a slight elevation, or rising on the toes and dropping suddenly upon the heels, is a valuable symptom quite early in the disease.

In concluding this paper, in which I have attempted to give only a few hints or suggestions in regard to diagnosis, I wish again to emphasize the importance of thorough and careful examination of cases that present any symptoms of spinal disease. If discovered sufficiently early, it is possible to effect a cure, with no appreciable deformity, even when the disease is located in the dorsal region.

316 LENOX AVENUE.

#### SURGICAL DISEASES OF THE URINARY ORGANS. STONE IN THE BLADDER; ITS REMOVAL.

BY W. S. FORBES, M.D.

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A LARGE stone in the bladder is easily found, while the existence of a small one may readily escape detection; yet it is of vast importance to the patient that the presence of a small stone should be pointed out, in order that it may be removed without that trouble and risk which so frequently attend the removal of a large stone, which it surely will become if permitted to remain in the bladder.

There are three methods of removing stone from the bladder:

1. By litholapaxy (crushing the stone and washing the débris from the bladder through a canula, at one sitting).
2. By supra-pubic cystotomy.
3. By perineal lithotomy.

One of these three methods of operating must be selected by the surgeon, and with the most careful judgment, as best applicable under the conditions present in each individual case. I may greatly prefer, ordinarily, to crush the stone, but if it is partly lodged in the wall of the bladder, it is impossible to crush it; so that I must open the bladder either by a supra-pubic incision or through the perineum; or the stone may be so large that it can be removed only by supra-pubic cystotomy.

Each one of the three methods of operating has its own peculiar fitness in a certain class of cases.

My own view is that litholapaxy, crushing the stone and removing the pulverized fragments at one sitting, is best suited and is most applicable to the greatest number of cases. In short, it is, for the most part, by far the most successful method of

removing stone from the bladder that is now practised.

We are indebted to our countryman, Dr. Bigelow, of Boston, alone and entirely, for its conception and its introduction into practice.

He gave it its name, litholapaxy (*λίθος*, a stone, and *λάπαξις*, an emptying out), by which it is known everywhere.

As an evidence of the extent to which litholapaxy is now practised, I shall give *in extenso* the published experience of a British surgeon in India, Dr. P. J. Freyer, in his "Clinical Remarks on the Present Position and Scope of Litholapaxy."<sup>1</sup>

*Litholapaxy in male children.* When, in 1885, Keegan first showed that Bigelow's operation was capable of successful extension to the case of male children, I lost no time in procuring the necessary instruments and applying the operation to such cases. In two papers I placed before the profession full details of 49 cases of litholapaxy undertaken by me in male children, or boys below the age of puberty. Since then 67 males of fifteen years and under, suffering from stone, have come under treatment, and in 66 of these I have performed litholapaxy—in all with complete success. In only one instance was it necessary to have recourse to lithotomy (supra-pubic). The greater my experience of litholapaxy among male children becomes, the more I am fascinated by this operation. Though the average number of days such cases were kept in hospital was  $5\frac{1}{2}$  as a rule, these little patients may be seen playing about the day after the operation, perfectly happy, and untroubled by urinary symptoms of any kind. Did space permit, I could illustrate the force of this statement by details of numerous cases from my practice.

It will be observed that among this series there were two little patients of two and a half, four of two and a quarter, and one of two years, respectively, from whom calculi, varying in weight from  $2\frac{1}{4}$  to 80 grains were removed by litholapaxy, and I have previously recorded a case of a male child, aged one and a half years, from whom I removed a calculus weighing 3 grains by this operation. It is astonishing the facility with which a No. 6 canula will pass through the urethra of a child of this age. In this connection it will not be amiss to mention that on June 7, 1889, a child, aged nine months, was brought to me with symptoms of stone, but in whom no stone could be found. In this case I passed a No. 6 canula easily, and washed out the bladder by an aspirator, for diagnostic purposes. Had there been a stone I could have removed it by litholapaxy readily. Thus it will be seen that with the suitable instruments now available, litholapaxy can be successfully employed in patients of the most tender age.

*Cases in which cystotomy or lithotomy was performed.* Among this series of 168 calculous cases there were only three instances in which I was unable to perform litholapaxy; and, strange to say, they were all three of the same nature—calculi of medium size, lying partly in the bladder and partly impacted or sacculated in the prostatic urethra, from which position they could not be by any means displaced.

In the first of these cases, a lad of ten years, suffering from stone for five years, I performed supra-pubic cystotomy, under the impression that the stone was a large one—an impression in which examination by the rectum falsely confirmed me. The operation was performed on July 25, 1889, the calculus weighing 3 drams. The patient then passed into the hands of Surgeon-Major I

<sup>1</sup> British Medical Journal, May, 1891, p. 1005 et seq.

Boulger on August 3d, and was discharged cured on August 14th.

In the second case, that of a man aged forty-five years, suffering for four years, median lithotomy was performed on December 17, 1889, and the patient discharged cured on January 13, 1890.

The third case, aged nineteen, was a patient on whom I had previously performed supra-pubic cystotomy on June 23, 1887. He remained free from urinary troubles for two years, when symptoms of stone again set in, and he applied for relief on January 24, 1891. On passing a sound I detected a stone at the neck of the bladder, and endeavored to dislodge it backward, but without effect; so I performed median lithotomy, Surgeon-Major P. de H. Haig and Surgeon S. F. Freyer being present. I found the stone, which weighed 136 grains, lying in a cul-de-sac at the neck of the bladder, formed in the largest part by the distended and distorted prostatic urethra, and communicating with the bladder by an opening through which, after removal of the stone, I could pass my forefinger. The patient was discharged cured on February 15, 1891. This man had had left lateral lithotomy performed on him when a child.

Such, then, are my most recent experiences in the surgery of stone in the bladder. There are two very important lessons to be learned therefrom:

1. That litholapaxy is almost universally applicable to all cases of vesical calculus, as is clearly shown by the fact that I have been enabled to perform this operation in 165 out of my latest 168 cases of stone, occurring in both sexes and in all ages and conditions. During 1890, 106 patients suffering from stone came under my treatment, and litholapaxy was performed in one and all of these, with one death.

2. That the dangers which we anticipated from the extension of litholapaxy to the case of male children were purely imaginary and had no foundation in fact, as is fully proved by my having now performed this operation in 115 males below the age of puberty without a death, and in all with complete success.

*General statistics.* In my work on *Litholapaxy*, published in 1886, I gave the results of 321 operations for stone in the bladder—128 litholapaxies and 193 lithotomies—performed by me down to the beginning of that year, with 14 deaths, and showed that the introduction of litholapaxy into my practice had had the effect of reducing the mortality from operations for stone in the adult from 18 to 5½ per cent. Since that time I have in three papers published in the *British Medical Journal*, including the present paper, given full details of a further series of 400 cases of stone in the bladder. There were among these 342 litholapaxies—in 221 adult males, 5 adult females, 115 male children, and 1 female child—with 4 deaths; 54 perineal lithotomies—among 3 adult males and 51 male children—with 1 death; and 4 supra-pubic lithotomies—in 2 adult males and 2 male children—with 1 death. That is to say, 400 operations with 6 deaths, or a mortality of 1½ per cent.—a result which we can scarcely expect to improve on while we extend the operation to almost hopeless and moribund patients. It is a result unequalled in any other large and important operation in surgery, and entirely due to the introduction of Bigelow's method. The grave has now closed over that great surgeon, whose name is imperishably connected with the modern operation for stone and the word "litholapaxy" which he introduced to denote and distinguish it.

It has been my custom in every case of stone, before operating for its removal, to inject into the bladder once daily, for four or five days, two or three ounces of water, charged with 1 part of mercuric chloride to 6000 parts of water. It has seldom been

necessary to lessen the strength of the solution. This injection is allowed to remain in the bladder some four or five minutes. In this way not only the bladder, but the stone itself, which is usually very foul, is placed in a much better condition and made much less offensive. The bowels are always looked after and kept soluble. At the same time I am in the habit of giving a tablespoonful of the following solution twice daily:

R.—Acid. benzoici . . . . .	3ij.
Sodii boratis . . . . .	3iij.
Aquæ . . . . .	℥xij.—M.

And once daily, ten or fifteen grains of salol in a capsule of balsam of copaiba are given.

By these means I have, in most of my cases, succeeded in allaying the irritation of the bladder and in placing the patient in a better condition for operative interference.

On the day of the operation the solution of mercuric chloride should be omitted. In performing litholapaxy, and at the moment of operating, in the adult, four ounces of warm water containing ten grains of boric acid to the ounce should be substituted, and in the young child two ounces of this solution are sufficient.

The instruments used in litholapaxy, in the adult, are two lithotrites, a large and a small one, together with an evacuator, and one or more canulæ. The large lithotrite is used to break the stone in the first place, and the smaller one is then used to crush the fragments to such a size that they can pass when the canula is introduced.

I prefer to use Bigelow's lithotrites. The larger is No. 19 of the American scale and the smaller is No. 16. By the use of the smaller lithotrite much irritation of the prostate gland and the bladder may be avoided. After the fragments have been reduced to a proper size the lithotrite is laid aside, the canula introduced and the evacuator adjusted.

The evacuator consists of several parts. It has a large elastic bulb, slightly oval in shape, and capable of holding about ten ounces of fluid. Attached to the bulb inferiorly, is a glass bottle, which can be detached. At its upper extremity is a stop-cock, and laterally and inferiorly is another stop-cock. Through the stop-cock at the upper part the bulb is filled with warm boric-acid solution. The other stop-cock is for the purpose of articulating with the canula that has been introduced through the urethra into the bladder. The canulæ should be made of aluminium. The instrument weighs usually about ten ounces.

In using the evacuator it should be filled with warm water (that has been boiled) and adjusted to the canula that has been introduced into the bladder. The bulb is then compressed and the

solution is gently forced into the bladder. On removing the pressure the expansion of the elastic bulb causes a flow of the solution from the bladder into the bulb, carrying with it the fragments and debris of the crushed stone and deposits into the glass bottle. This process is to be repeated until every fragment of stone is removed from the bladder. It is to be observed to what a remarkable degree the bladder will tolerate the manipulation incident to the crushing of a stone. It was this fact, observed by Dr. Bigelow, that first led him to venture to complete the crushing and remove all of the debris at one sitting. Experience has fully demonstrated the immense advance made by this thoughtful surgeon.

In the case of a child with a stone of ordinary size and not a calcium-oxalate formation, a No. 7 lithotrite of the American scale is large enough, and may be used throughout the operation without removal until the stone is entirely crushed. The canula to be used, both in the adult and the child, should be a little larger than the lithotrites. The larger the canula that can be properly introduced the more easily will every fragment of stone be removed.

In the case of a large stone in a child, or a very hard one, such as a calcium-oxalate formation, I would prefer to perform supra-pubic cystotomy.

In performing the operation of supra-pubic cystotomy it should be remembered that in the child the larger portion of the bladder is above the pelvic strait, and, consequently, just behind the lower part of the anterior wall of the abdomen, and when the bladder is distended, say, with four ounces of water, its outline can be well marked out on the surface of the abdomen.

Now, the fold of the peritoneum that is reflected from the bladder to the abdominal wall is some little distance above the symphysis of the pubic bones. The peritoneum is quite firmly attached to the bladder at this place, but is quite loosely attached to the posterior surface of the anterior wall of the abdomen, there being a good deal of loose connective-tissue between the peritoneum and the wall of the abdomen; owing to this fact, the fold of the peritoneum here is easily raised to a greater distance from the symphysis when the bladder is distended. The distance from the symphysis to the fold of the peritoneum may easily be increased to two inches by distending the bladder.

It is through this space, and in the middle line (the linea alba) that the surgeon makes his incision down to and into the bladder.

While the lateral, posterior, and antero-superior walls of the bladder are made to move by distending the bladder, the *antero-inferior* portions of its walls on either side of the middle line are attached

to the lower part of the pubic bones by the strong fibrous bands known as the anterior true ligaments, and hence this portion of the bladder is immovable. It is highly necessary to remember this fact in using the rectal bag or colpeurynter.

The operation is readily performed. We should have ready for use a rubber rectal bag, a gum catheter, a scalpel, a tenaculum, and two hooks, needles threaded, and a small pair of stone-forceps. The patient should be placed in the recumbent position, the area of operation well sterilized, and the neighboring parts covered with sterilized towels.

The rectal bag, oiled, should now be inserted well into the rectum and a stream of water be gently forced into it. By this means the postero-inferior rectal surface of the bladder will be pressed upward and forward. The rectal bag is a good basis upon which this portion of the bladder will rest.

The gum catheter should be introduced into the bladder, and through it some four ounces of warm boric solution injected.

In the adult, an incision, about three inches long, should now be made in the median line just over the linea alba and reaching to the symphysis of the pubes. In the lower part of this incision and just above the symphysis we should go in a direct line down to the bladder. As there are no bloodvessels here of any moment, a little hot water will stop the oozing of blood.

When the bladder is reached, the point of a tenaculum should be thrust through its wall at the upper part of the incision, thereby fixing this portion of the organ. The scalpel should now be carried into the cavity of the bladder, the wall of which should be incised in the middle line down to the symphysis. Two needles, well threaded, should next be carried through the wall of the bladder, one on each side of the incision, in order to hold the margins apart. With the forceps the stone can now be readily withdrawn.

The bladder should then be washed out with warm boric solution. The incision in the bladder should now be accurately stitched, the needle passing through all of its coats except the mucous coat. The bladder should likewise be stitched to the abdominal fascia at the margin of the incision. A soft gum tube should be left in the lower part of the incision, for the purpose of draining the bladder. A soft rubber catheter should also be used for removing the urine as often as may be necessary. The patient should be kept in bed until the parts are united, which is accomplished in a few days.

1704 WALNUT STREET.

ON October 17th, the Department of Charities and Correction of the City of Philadelphia appointed seventeen homeopathic district physicians.

URIC ACID.<sup>1</sup>BY N. WIEST, M.D.,  
OF DENVER, COLORADO.

WHEN I first thought of writing a paper upon the subject of uric acid my mind was pretty clearly made up as to what I would say. That was when I had taken into consideration only my own case and my experience in practice. Since reading the few articles that have been written upon the subject, and a wonderfully interesting book by Alexander Haig, I am not so clear as to what will be best said in a short paper like this.

The subject is a vast one, and the field as yet almost unknown. I am rejoiced to see it receiving some attention of late, especially from such men as Haig, and hope that at no distant day we shall all know something about it.

For five years I have been suffering with uricacidemia. During all that time I have ever been on the alert for information upon the subject, and until recently have been disappointed—the literature has been so meager and unreliable.

I firmly believe that when we know as much about uric acid and the rôle it plays in disease as we do about many other things, we shall have the key to the prevention and cure of a great many troubles that are now taxing the ingenuity of the physician. We shall then treat a great many diseases intelligently and scientifically which we are now treating empirically. As an example of this I will cite acute tonsillitis, the treatment of which has been almost entirely empirical. Now, if we can prove tonsillitis to be caused by uric acid, which it certainly is, we can very soon tell how to treat it.

One of the most aggravated cases of uric acid disturbance that has come under my observation was in a man about forty years of age. The patient's habits in life have always been correct, generally speaking. He has never used tobacco or alcoholic beverages in any form. He came to Colorado about five years ago, not for his health, but for his purse. He never had rheumatism, so called, before coming West, but he did have two attacks of gout, affecting the metatarsal joint of the great toe of the left foot, each attack lasting about a week, and causing great distress during its continuance. These two attacks were about one year apart, and occurred shortly before his coming to Colorado.

The other symptoms pointing to the uric acid diathesis were repeated attacks of tonsillitis; severe headaches, lasting during the day, and passing off at sunset; waves of radiating lights before the eyes, with crossed vision, or temporary blindness; inability to sit quiet for any length of time because of aching of the legs, especially about the knees.

Nothing more developed until he had been in Colorado about three months, when he noticed pain and a small degree of stiffness in the muscles and joints, without any swelling. At about this time the changeable autumn weather came on, and with it an increase in the trouble. The patient then first began to notice that his face would be of an ashen hue during the morning, and that the face and eyes were much congested every afternoon, together with more or less headache, which would invariably cease about sunset. This latter feature was so constant that he felt assured that, no matter how much he suffered during the day, relief would come at evening. These headaches would start and be most severe at the base of the brain, though, when most intense, the whole brain felt as if it were inflamed. They recurred as often as four or five times a week. At these times the urine became scanty, acid, and very highly colored. Samples, placed upon a slide and subjected to the action of acid, deposited heavy crystalline masses of urates. Immediately after these spells the urine was, upon microscopical examination, found to be loaded with uric acid.

In making frequent tests I found the amount of acid to vary, at times being almost totally absent. Another prominent symptom was mental torpor, or drowsiness. The patient complained that when he felt the worst he could not think quickly, but was obliged to make an effort not to appear stupid. In attempting to read he found that after perusing a page he could not tell what he had been reading, no impression having been made on his mind. Drowsiness was so troublesome that reading and attendance at lectures or church were useless. The effort to keep awake was positive torment; yet, when he allowed himself to go to sleep the sleep was very unrefreshing, unsatisfactory, disturbed by unpleasant, crazy dreams, and filled with difficult tasks, dangerous situations, and nightmares.

One very annoying symptom was lapse of memory. This would manifest itself more frequently during the day, about the middle or early afternoon. He would lose track of portions of the day and what he had done during those times, and would often go and review his work, for fear that it might not have been properly performed, always, however, finding everything all right. He often remarked that were responsible parties to come to him and state that he had committed murder or some outlandish act during one of these spells of lapse of memory, he would not dispute the statement, not knowing but that such might be the case. He only knew that he had felt horribly depressed, with a feeling of impending danger, and could not tell whether one minute or two hours had passed. Those who were with him would notice nothing strange or unusual in his manner. Aphasia was

<sup>1</sup> Read before the Colorado State Medical Society, June, 1892.

troublesome, the patient often losing words or familiar names right out of ordinary conversation; sometimes forgetting whole sentences, which would drop out of his mind like a flash.

In October he was confined to bed with an attack of acute muscular rheumatism, attended with high temperature, severe pain, and a hot dry skin. He was given a hot bath, followed by pilocarpine, which produced profuse sweating, the perspiration smelling as sour as vinegar. Subsequently sodium salicylate was given. The patient was at work again in a few days, though by no means free from his old symptoms.

He consulted a number of specialists, one telling him the condition was neurasthenia, and advising electricity, plenty of exercise, carefully selected diet. Another called it a torpid liver, and recommended a cholagogue, not forgetting calomel. Another laid it to indigestion, and placed more hopes in dieting and the use of aids to digestion, as pepsin, pancreatin, etc. The patient himself called it rheumatism, for want of a better name, and was advised by friends to take all the known anti-rheumatics, many of which he tried, but with no appreciable benefit, until he tried salol, then salol and phenacetin, which relieved him of the pain so long as he persisted in their use, while the other symptoms remained much the same. I have now put him upon the treatment recommended by Haig, to be mentioned later, and am getting good results. This case is only one, perhaps a somewhat aggravated one, of a class of patients continually coming under observation for treatment of one or more of the aforementioned symptoms, and taxing our abilities to bring about a perfect cure.

When a patient comes to me with any of the following symptoms I immediately look for uric acid, and generally find it in sufficient quantities to cause the trouble: Intense headache, coming on either in the morning before rising, or after dinner. The morning headache often passes off after the patient has been up and about his work a short time; the afternoon headache generally becomes easier, or ceases altogether at evening. There may be pain and a tired feeling in the back; a feeling of complete "goneness," or of fulness, as the case may be, in the stomach or bowels, with extreme restlessness; "blind staggers," as the patients often call it; dizziness, whizzing lights before the eyes; temporarily disturbed vision; buzzing in the ears, with a sense of fulness in the head. Sometimes the face is flushed, especially in the afternoon; the eyes congested. There may be aversion to mental or physical exertion; a sense of impending danger; irritable temper; indigestion, with all of its accompanying evils; rheumatism and neuralgic pains.

There is another symptom, or class of symptoms,

that must have a little more extended notice, as they are important in this connection, from the fact that they are usually referred to other causes, and come under the head of skin-diseases. They are urticaria, or nettlerash, some forms of eczema, and a condition that I will not name, but will try to describe in a few words. It consists of an intense itching that appears in the fall, and disappears in the spring with the return of warm weather. One lady always spoke of it as her "winter itch." The itching is mainly confined to the legs and arms, and is extremely annoying because of its intensity. It is most severe after undressing at night. There is no eruption at first—or at all, for that matter; but we often find that the patient has scratched the skin off in his distress. Scratching does not relieve, but increases the itching almost beyond toleration. I have found this condition in a good many patients, and all describe it alike.

The uric-acid sufferer is a crank. He has a perfect right to be one. He is a miserable being much of the time. He can never call himself entirely free from pain or distress in some form.

Rheumatism ever stands ready to grasp him in its clutches. When his mental faculties are clear, and he feels that he is himself again, and can do some mental work, then he finds himself assailed at every joint and muscle by his arch-enemy, *rheumatism*.

If he takes a slight cold, and the secretions are checked, he soon finds himself suffering with an attack of acute tonsillitis. I have found this very common in children who are of the uric-acid diathesis, and my rule for treatment is to reestablish the secretions, regulate the diet, excluding meats, and treat upon the anti-rheumatic plan. Success is sure, speedy, and gratifying. A person afflicted with excess of uric acid becomes an easy prey to the specialist. The nerve-specialist claims him for his own, likewise the oculist, laryngologist, dermatologist, and he who makes a specialty of urinary diseases.

I cannot conceive of how a man can practise medicine with any degree of intelligence or success until he has learned to make a complete analysis of his patient's urine, knows what he sees when he sees it, and also knows the significance of what he finds. We, as physicians, do not look into these matters as frequently as we should. We would have better success in treatment if we did so. In the urine we have a key to a large proportion of the troubles for which we are consulted; then why not use the means given us to assist in our investigations.

Now the question arises, what light have recent investigations thrown upon this subject? I will admit that "now we only know in part;" but knowledge is becoming more positive. Many things that recently were wholly in the dark, or only supposed,

are now in shape to be accepted as facts. For my part, I feel sure of the following statements: One of the principal things to attend to is diet. This should consist of vegetables, fruits and milk, excluding meats, or only allowing small quantities of fish and fowl. I allow no coffee, and tea and cocoa only in moderate quantities, and very weak. I find coffee very harmful, and strong tea equally so.

Of vegetables, I forbid baked beans, boiled cabbage, watermelons, all of which I have found to increase the trouble. Among the fruits, strawberries seem to cause the most disturbance. I lay this to the presence of a peculiar acid contained in them. A good many of my patients have been obliged to give up eating strawberries. Blackberries and raspberries are also harmful, possibly because of the constipation they produce. Sugars and sweetmeats of all kinds should be indulged in very sparingly. Many patients tell me that in twenty minutes after eating confections or sweets they become conscious of a very disagreeable, sour taste in the mouth, as though the sugar had already undergone fermentation. Plenty of good, plain food, well cooked, may be taken, and four times a day, if the desire exists. Much milk may be drunk. The skin should be kept active by frequent warm or hot baths at night, and by a cool plunge or sponge-bath in the morning. Regular hours should be kept, with plenty of sleep, and the laws of health in general observed.

No spirituous or malt liquors of any kind should be allowed; they are all harmful in any quantity whatever. Plenty of water should be drunk; water that has been boiled and then cooled is best. The majority of persons do not drink enough water. The system needs flushing as well as the sewer. Professor Haig's conclusions seem to be that the troubles arising from uric acid do not so much depend upon an excessive formation as from an accumulation in the system as a result of defective excretion. My own observations and experiments made upon myself and others lead me to agree fully with him upon this point. When excretion has been defective for a period of time, the system becomes filled with acid, and the various symptoms already mentioned manifest themselves. Then we must not only prevent increased formation by regulating the habits and diet of our patients, but we must also prevent retention by the same means, and get rid of that which has already accumulated. So far as we know at present, this latter is best accomplished by the use of alkalies, as salicylates, salol, sodium, phosphate, quinine, etc. These drugs, acting as solvents assist in ridding the system of any excess of acid. Acids, iron, lead, lithium, acid phosphates, opium, mercury, strychnine, and caffeine cause retention.

We are as yet only entering upon the field of this great subject. We hope ere long "to clear" up much that is now obscure.

1745 EMERSON AVENUE.

### PLICA CIRCULARIS CONJUNCTIVÆ IN THE NEGRO.

BY MIDDLETON MICHEL, M.D.,

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AT CHARLESTON, S. C.

MANY years ago I noticed a singular distribution of the ocular conjunctiva in a negro child, and, having found the same condition in other children of the same race on several subsequent occasions, I was led to make some comments on the subject at a meeting of our medical society some time in 1880.

I had met this peculiarity only in negro children, except once in an adult negro whose eyes were so from childhood. At that time, as now, I thought that this was an anatomic arrangement of the conjunctiva more frequent, perhaps, in the negro, as I have not seen it in the white race, although I supposed it occurred in the latter, since Desmarres describes a somewhat similar condition witnessed on more than one occasion at his clinics in Paris. Desmarres proved to be the only author among the many then consulted who referred to anything of the kind, and he regarded it as a perikeratitic hypertrophy of the conjunctiva.<sup>1</sup>

Further inquiry among authorities at hand revealed the existence of a very rare disease of the eyes during spring and summer months, which had but recently attracted the attention of European oculists, some of whom regarded it as a veritable spring catarrh.

Hunter appears to have been the first to give a full and accurate account of this disease, in 1879; though Arlt<sup>2</sup> seems to have noticed it earlier and to have written concerning it in 1851. Subsequently an interesting description of this complaint is recorded by Dr. Swan M. Burnett, who refers particularly to its occurrence among negroes.<sup>3</sup> All of these and other writers, however, speak of a disease of the eyes not limited to any one part of the mucous membrane, but invading all portions of the conjunctiva of either one or both eyes, and especially conspicuous in the palpebral part of its course, characterized by nodules, excrescences, or papillary elevations of variable size. Such importance, indeed, is attached to the blepharitic condition that some have considered this the pathognomonic symptom, differentiating the disease from trachoma by the

<sup>1</sup> *Maladies des Yeux*, vol. ii. p. 184, 1855.

<sup>2</sup> *Arlt: Clinical Studies on Diseases of the Eye*, p. 15, 1885. (Translator, Wayne.)

<sup>3</sup> *Archives of Ophthalmology*, vol. x., 1881.

flatness and other features of these granulations.<sup>1</sup> All refer to a disease. Arlt indorses this view and considers it a scrofulous conjunctivitis that manifests itself especially among children between the ages of ten and fifteen years; but he remarks that it makes its appearance without previous inflammation, and so far resembles a simple hypertrophy in parts of the mucous membrane about the cornea; that his early acquaintance with the affection was in a little patient sent him by a colleague with the request that he would operate upon the eyes supposed to be affected with pterygia. Burnett writes also of a "circum-corneal hypertrophy of the conjunctiva," giving the same appellation as Desmarres, but stating that everything warrants the affection to be classed among the "conjunctivites."

Personal research, on the contrary, and consideration of the rare instances that have come under my observation since 1876, force me to announce in this paper a congenital not an acquired or pathologic state of the adnata; having nothing to do with vernal conjunctivitis—*conjunctivite printanière* of De Wecker—or spring catarrh of the conjunctiva.

In my experience these accidental occurrences came in both eyes of negro children, at distant intervals, without reference to seasons of the year, and were of such a nature as to arrest my attention at once as something with which I was unacquainted. The impression at first conveyed was that of a singular development of perfectly symmetrical pterygia, of a dark color, surrounding both corneæ, giving a striking appearance and conveying an indescribable expression to the child. No pain, no iritic or sclero-corneal vascularity, no lachrymation, nothing indicative of inflammation was present; there was some little irritation, perhaps, but not more than would be produced by the friction of any thickened pterygion with the periodic movements of the lids.

Closer inspection discovered both corneæ buried within a rim-like encasement, produced by the infolding of the conjunctiva symmetrically around their margins to the distance of about an eighth of an inch, the accurately defined limitations of which were better marked by a deep pigmentation of the reduplicated conjunctival fold, such a coloration as is not uncommon about this membrane in negroes, but which was here confined to this plica circularis alone. This marginal hem of conjunctival tissue seemed borrowed in part from the bulbar portion, though principally made up of the attenuated sclero-corneal or almost epithelial portion; and this fold, quite detached and easily raised with a probe all around the cornea, was slightly elevated by an exudation through its layers so as to assume a gelatinous appearance. No trace of ulceration or phlyc-

tenulæ could be discovered, and no leashes of blood-vessel were visible anywhere running into this mucous zone. The curious fact that Graefe<sup>1</sup> has written of what he terms a "gallertige infiltration," that is a jelly-like infiltration about the limbus, convinces me that so high an authority also noticed this very peculiarity which he, I believe, never associated, any more than did Desmarres, with any particular disease.

With the exception, then, of Desmarres, Graefe, perhaps Arlt, and recently Bronner,<sup>2</sup> who respectively refer to a strange adjustment of the adnata at the corneal attachment, and to its hypertrophied aspect, the only approach which others make toward the recognition of a similar distribution of the conjunctiva herein described among negroes is the mention of a partial thickening that sometimes results from a periodic summer disease of a markedly scrofulous and catarrhal type occurring and disappearing with the disease, but which does not by any means invariably include the entire circumference of the cornea.

Emphasis should be placed upon this special circumferential fold, as this feature is obviously more or less conspicuous in the accounts given by the few authorities recognizing this phase of the subject. The perfect symmetry of this overlapping fold of equal width around the cornea of both eyes appears to me inconsistent with the idea of its origin from previous inflammation, ulceration, or disease of this membrane. The history of the formation of a pterygium and of the degenerative changes consequent upon attacks of recurring conjunctivitis call to mind the irregular and eccentric folds into which the mucous membrane is thrown and puckered under such circumstances. After abrasions or even slight loss of epithelium about the region of the limbus, the swollen conjunctiva reaches the denuded surfaces, becomes agglutinated, and finally adherent, cicatricial contractions establishing a tucked fold of greater or less peripheral extent about the cornea with such vascularity as to indicate its traumatic origin; the radiating lines of traction toward the corneal attachment imparting the characteristic triangular shape to the pterygium, which, from the very nature of the tissues implicated, rarely occupies more than a very limited portion of the limbus, but never travels entirely around the bordered region in one symmetrical, regular, continuous fold of perfectly healthy tissue of the same width throughout.

Herpetic or phlyctenular ulcerations, and particularly multiple syphilitic gummata, with their nodules running confluent one into another in a thickened border line about the cornea, might easily impose a similar aspect, but the immobility of indurated,

<sup>1</sup> Cyclopedia of the Diseases of Children, vol. iv. p. 93.

<sup>1</sup> Archives of Ophthalmology, vol. x.

<sup>2</sup> Lancet, July, 1888.

cicatricial, and adherent tissue, with well-marked traces of previous disease, are always present to exclude any misapprehension.

Regarded by some again as a simple hypertrophy of the membrane—the view which Desmarres evidently takes of the subject—it may be inquired whether this condition was considered as the result of previous inflammations or not. Now, hypertrophy of a mucous membrane consists of an increase of its structural elements, the nutritive material for which is imported into the region by a liberal blood-supply; but just here in this locality the conjunctiva has parted with all of its histologic elements save its protective or epithelial layer, which remains alone to extend itself like the thinnest possible araneous structure over the cornea. Any hypertrophy about the limbus could consist of a hypersecretion of epithelia only, and, however great this epithelial proliferation might be, it would scarcely constitute the increased thickness, and anatomic folding-in of the layers such as has been described, and certainly would not be regarded as a true hypertrophy of the mucous tissue as such; nor would this be productive of exactly the appearances we have noticed. It must be remembered in this connection, however, that hypertrophy may sometimes be congenital.

The striking pigmentation of this ring of movable and overlapping conjunctival tissue, in bold contrast with a clear and non-vascular ocular conjunctiva in the negro, formed another remarkable feature of these cases. Here again, in this vicinage, we are not to look for a veritable secretion as we would elsewhere, for no secretory process is possible where the histologic structures, even as simple cells, are not present to produce it; this coloration seems rather to depend upon certain filtrates from the blood, escaping without rupture of any blood-vessels, but through simple pressure consequent upon the obstructed or impeded flow through this modification of the mucous membrane; the dark pigmentation represents such chemical changes as have readily converted these filtrates into pigments; through mechanical obstruction the hemoglobin escapes, permeates the part, and becomes converted into permanent pigment.

To the views herein expressed as to the anatomic nature and congenital character of this circumcorneal ring of mucous membrane the only avenue to adverse criticism would lie in the conjecture that I had overlooked a very important disease of the eye, designated by some writers as conjunctivitis estivalis, or more likely that I have only seen a singular chronic variety of the affection supposed to have exhausted itself at the limbus alone. Would not, however, the annual recurrence of such a disease have very soon declared itself in unmistakable terms?—or even its occasional advent have rectified any

possible or probable misconception? Especially would this have been the case, as during the prevalence of the recent allotropic conditions of the oxygen of the air that have predisposed to every kind of irritation and inflammation of the sensorial and respiratory tracts, we have all been vigilant of any epidemic or endemic cause engendering disease. Again, would not the palpebral variety of the disease, so dwelt upon by those who have accurately described it, have unavoidably intruded itself upon my observation, more particularly from its supposed resemblance to *trachoma*, which latter affection is so rare in negroes that many consider this race as almost exempted.

The absence, then, of all catarrhal symptoms, and the exceptional peculiarity of so precise and equable a perikeratitic fold of highly pigmented movable membrane, presenting a like arrangement in both eyes, and seen in negroes alone, are circumstances that seem to indicate a congenital disposition of the conjunctiva, very frequent, at least, in the negro, and similar to the *plica semilunaris* and *membrana nictitans*, of which the former is but a vestige.

Until further developments respecting this subject I am disposed to consider this a description of an anatomic feature observed in the eyes of our negro population particularly, which should be termed the *plica circularis*.

## HOSPITAL NOTE.

### RECTO-VAGINAL PERFORATION.

CLINIC OF PROF. M. D. MANN, M.D.,  
At the Buffalo General Hospital.

Reported by A. L. BENEDICT, M.D.]

I HAVE here a case to show you which is interesting, and yet more or less disgusting. The patient is a prostitute of the very lowest type, who was brought into the hospital on Friday in a state of intoxication. The history elicited was that she had been cohabiting with a man the night before while both were under the influence of liquor, and that he had injured her severely. Examination shows that there is a rent in the recto-vaginal septum an inch and a half long, and the only way in which it can be accounted for is that it was made at the time of the last sexual intercourse.

A great many accidents have occurred at the first sexual approach, such as vesico-vaginal or recto-vaginal puncture and consequent fistula, the tearing of the parts about the clitoris or the bulb of the vagina. These lesions have occurred especially when there was great disproportion between the male and the female organs. In some instances women have almost lost their lives at these times. In the present case, however, such a disproportion cannot have existed, and the trouble must have been due to some abnormal posture or unusual violence during intercourse. With the history that the

patient was intoxicated at the time and her paramour somewhat so, he might have entered her by the anus, and the pressure of the penis on the recto-vaginal septum may have caused the tear. At any rate, be the mechanism of the accident what it may, the history is that it occurred during cohabitation, and the result is a tear which reaches from the perineal body very nearly to the posterior fornix of the vagina. This is the first bad case of injury during sexual intercourse that I have ever seen, though a number have been reported in books and journals.

It may possibly be that there was an ulceration of the septum previously to this intercourse. In order to determine whether such a predisposing factor to injury existed, I have had the patient etherized so as to do away with the tenderness of the parts. I shall insert a tri-valve speculum, so as to push the sides of the vagina apart and allow free inspection of the edges of this fistula. The speculum is inserted upside down, revealing a slight laceration of the perineum and a rent in the recto-vaginal septum, through which I pass a sound, in order to show you more plainly the extent of the lesion. The edges of the wound are healthy, there being no indication of venereal disease.

The patient has been pregnant, and has lately had an abortion. It is possible that this wound may have been inflicted in the instrumental attempt at procuring an abortion, but the patient emphatically denies this to be the case.

After the wound has healed I shall undertake an operation for the relief of the fistula. It was very difficult to do an operation on the posterior wall of the vagina till Simon showed that the recto-vaginal septum could be reached from behind, after stretching the sphincter ani and inserting a speculum into the rectum, so as to displace the posterior and lateral walls of the latter. By this method the anterior wall of the rectum comes plainly into sight, and an operation for the repair of a fistula between the rectum and the vagina is a comparatively simple procedure. It is necessary to have the patient completely under the influence of ether. Silk stitches are used. The sphincter being paralyzed by the preliminary stretching, there can be no retention of gas and therefore all tension on the stitches is avoided. We cannot keep iodoform in the rectum, as we could in the vagina, on account of the danger of absorption. We can, however, maintain a condition of cleanliness in the rectum.

**LATER REPORT.**—The patient was kept in the hospital ward until the parts had healed as much as they would spontaneously, daily douches of carbolic acid, 1:40, being given. She was then etherized for operation, and an examination showed that fully half of the wound had closed by the natural process of repair. On trying to operate by Simon's method, it was found impracticable. By putting the patient on her back and inserting a Sims speculum to hold up the anterior wall of the vagina, and two retractors to separate the lateral walls, the fistula was fully exposed, and, after the edges had been denuded, was closed with silver wire sutures in the same manner as a vesico-vaginal fistula. The parts healed kindly, and, after about two weeks, the patient was discharged entirely relieved of her trouble.

## CLINICAL MEMORANDA.

### THREE CASES OF COMPOUND FRACTURE OF THE SKULL.<sup>1</sup>

BY EDMUND J. A. ROGERS, M.D.,

PROFESSOR OF SURGERY, UNIVERSITY OF DENVER; SURGEON TO THE ARAPAHOE COUNTY HOSPITAL, ST. LUKE'S HOSPITAL, THE DEACONESSES' HOME HOSPITAL, ETC.

DURING the latter months of the last winter there appeared to be an unusual epidemic of injuries to the skull in and about the city; in fact, for some time a majority of the patients coming into the surgical wards of the County Hospital were those suffering from some injury about the head. The three cases of compound fracture of the skull, which I here summarize, all came in within a short time of each other. I am well aware that there is nothing new or original about these cases, but every case that we are able to record and refer to assists us in the treatment of similar cases.

**CASE I.**—A boy, Charles Stein, aged thirteen, was admitted to the hospital on February 11, 1892. While playing on the railway track he was struck on the head by a switch-engine, and a wheel passed over part of his foot and badly crushed it. We found on the left side of the head a scalp wound, about two inches in length, curving convexly forward, situated about three-fourths of an inch in front of the Rolandic region. A fissure-fracture of the skull could easily be felt, and as he showed distinct signs of cerebral compression and irritation, we decided to operate. He was brought into the hospital in the evening, but was not operated upon until the following morning. Before the operation he was examined by Dr. Eskridge, the hospital neurologist, who made the following notes of the nervous symptoms:

"There seems to be no loss of power or sensation in the legs. The right knee-jerk is increased, the left lessened. The left foot is injured and causes him to involuntarily resist the natural reflexes of this side, which accounts partially for the differences found. The right plantar reflex is increased; the left I am unable to determine, as the foot is bandaged. There is no ankle-clonus. The cremasteric reflexes are both present and normal. Other superficial reflexes are nearly normal. The left hand and arm are used in preference to the right, although he is right-handed. The right hand and arm are used rather awkwardly, but no loss of sensation is found either in the arm or any portion of the face or body. The dynamometer registered: R., 24, L., 36. The right hand and wrist muscles are more paretic than those of the upper portion of the arm. The whole of the right side of the face, from the crown of the head, is partially paralyzed. He cannot close the right eye rigidly or open it to the same extent as the left eye. Corrugation of the right superciliary region is lost and cannot be produced on voluntary effort. The face is drawn slightly to the left. His irritability prevents testing of the tongue. There is no affection of a sensory character at all. Special senses apparently normal."

His mind was clear, but he was disinclined to talk and had difficulty in expressing himself. It was hard for him to pronounce the linguous labials.

From these symptoms it was easy to see that the com-

<sup>1</sup> Read before the Colorado State Medical Society, June, 1892.

pression was extensive, but yet we did not expect in the beginning of the operation to find as extensive an injury as proved to be present. The main fissure of fracture was found to be immediately under the scalp-wound, but it continued much further downward and forward, and appeared to continue even round to the base. Beginning with it above, and diverging from it, and again converging, were two other lines of fracture forming an elliptical area about two and one-half inches in length and one and one-half inches in its greatest width. The central line showed the greatest depression. There was little depression at the lateral lines, but they marked where the skull had given way from the great force probably applied at the center. With a seven-eighths inch trephine we first removed a disc at the upper convergence of these fissures. This only enabled us to find that the skull was very thick and that the apex of depression was so strongly impacted and wedged down that it could not be moved by any means in our power. We then removed a disc at the lower convergence, but were yet unable to raise the depressed area, until by means of saw, chisel, and rongeur we had cut a canal about one-quarter of an inch wide along the lines of the greatest depression from one opening to the other. We had still, however, to raise one side of the fissured fracture below the lower point of depression downward and forward. When we had lifted all the depressed area we had exposed the dura for the length of three and three-quarters inches. The dura was found uninjured and pulsation became well marked over the whole area. The removed bone was cut up fine by bone-forceps, dressed with iodoform, and scattered over the exposed dura before the scalp was replaced and completely closed. It was then closely dressed. The temperature-chart for the days that followed showed the elevations for some days going a little over 100°. These are undoubtedly due to the extensive suppurating area of the crushed foot. The head was not uncovered for several days, and when opened it was found that a small suppurating area marked the center of the originally torn scalp, which had probably become infected beyond sterilization at the time of the injury, but all the new wound, and most of the original tear, had united very nicely and there had been no deep suppuration. This small area soon healed completely, but the boy remained in the hospital on account of his foot for some time after. Indeed, he left contrary to advice before the foot was healed. The nervous symptoms were improved immediately after the operation, and had all entirely disappeared by the third or fourth day, the aphasic symptoms being most marked for a few days, and he had great difficulty in finding words to express himself, using generally only one word alone to express an idea.

CASE II.—The next case was that of S. J. Burch, aged thirty-four, who was admitted on March 11th. He had been kicked by a horse in the right temporal region near the coronal suture. A fracture could not be made out with certainty until we cut down upon it, which was done upon the 12th. He presented no nervous symptoms whatever, and the feeling of roughness of the bone and the thinness of the skull in this area were the only indications of fracture present. We found an area, about one inch long and three-quarters wide, crushed in quite deeply. This probably corresponded with the calk

of the horse's shoe. The greatest depression was at the lowest margin. By cutting away the exposed edge with a Keen's forceps, we could easily get under and raise the fractured portion of the inner plate, which directly and markedly depressed the dura. It was impossible, however, to keep it up, so that it had to be taken out, cut up, and replaced as in the foregoing case. The dura was uninjured. We had here also some supuration, it being deeper than in the last case, so that a drainage-tube had to be put in after the first dressing was removed, which was several days after the operation. From the temperature, however, which was normal after the first day, we see that there was no serious inflammation, and the patient left the hospital on April 5th, completely recovered.

CASE III.—George Vandever, aged thirty, was admitted during the night of March 24th, said to have been injured in a bar-room row. He was brought immediately to the hospital, where I saw him at once. He was unconscious, breathing irregularly, with an unsteady pulse, and was said to have had a convulsion. (He stated subsequently that he occasionally had convulsions.)

The symptoms seemed too serious for delay, so we operated at once, at about 1 A.M. The injury was on the right side, beginning at about the temporal ridge and extending downward and backward for about one and one-half inches; under this was found a gutter fracture about one-quarter inch wide. The outer plate was comminuted and crushed inward and backward, probably by some narrow-edged instrument, with a backward force. The anterior edge was removed by means of chisel and forceps, and the small pieces picked out, when it was found that the inner plate was compressed over a large area, extending from the anterior margin of the wound backward. The bone posteriorly to the fracture was then trephined, but the opening had still to be enlarged before the depressed inner plate could be raised. During the early part of the operation the patient apparently expired, the pulse disappearing before the respiration stopped. Resuscitation was slow but satisfactory. The patient made a rapid and satisfactory recovery, although there was a very slight superficial suppurating area. His temperature, you see, ran up to 100° for some days, but not higher. He was discharged well on April 12th.

In dressing each of these cases it will be noticed that I adopted the plan of chopping up the fragments of bone and scattering them over the exposed area. It proved very satisfactory in all three.

The fact that there was some supuration in each of them was to be expected, when it is considered that they were all compound injuries inflicted by probably infected agencies, and that two of them were not operated on until the day following the injury, so that organisms had plenty of time to have already developed in the wound. In none of them, however, was inflammation severe enough to cause a serious elevation of temperature, although the first dressings staid on for several days. In two the suppuration was quite superficial. Only in the one made by the horse's shoe was it deep enough to create fear of its reaching the dura. Each of these patients walked about the hospital a few days after the operation, except the one with a crushed foot, who, if

his head alone had been injured, would also have been able to do so.

The skull injuries that I have seen during the last few months have convinced me more than ever of the impossibility of diagnosing often the presence and always the extent of a fracture of the skull, even when the scalp is cut. At the same time that these men were in the hospital, in another case I had to expose the bone thoroughly at the base of an open injury before I could show that it was not fractured, three or four surgeons, including myself, having diagnosed a fracture. I believe that there are many cases in which the scalp is not broken, in which it is absolutely impossible to make a diagnosis without free incision. This I do not hesitate to make and have never seen any harm result from it. As to the question of operation on a fractured skull, I have no hesitation in saying that, in my opinion, when it is reasonable to suspect the probability of any compression or irritation from a fractured inner plate, we should operate. Surgery has now come to a stage at which the dangers from an operation are minimized, and every day is showing more and more bad results from leaving an injury on the inner surface of the skull unrectified. One of the most interesting questions to be discussed in this direction is, "To what extent should we explore when a bullet enters but does not leave the skull?" but this discussion does not come properly within the review of these cases.

In all skull-operations I wish to say a word of commendation for Keen's bone-biting forceps. It is an instrument that supplies a want hardly filled without it.

One of the noticeable features of recent skull-operations is the fact that so many surgeons are recommending the chisel instead of the trephine. While they are both very useful instruments, I do not think that the chisel should ever take the place of the trephine, although it is a most useful adjunct to it. In many operations the chisel can be used without the trephine, but for primarily going through the skull I think it is not as safe and certain as the trephine.

#### ATHETOSIS, WITH REPORT OF A CASE.

By JOHN L. DAWSON, JR., M.D.

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ATHETOSIS may be regarded as one of those neuroses of the motor tracts which presents no fixed pathologic lesion or no constant assignable cause. The disease received its name and first clinical history from Hammond in 1871, but has since been described and cases have been reported by many observers. These descriptions, whilst being very similar if not identical in the various symptoms presented, differ widely as to etiology and pathology.

The mobile spasm, as Gowers termed it, is necessarily present in all cases, but the causative factor of this spasm not being certainly known, it has been attributed to brain-lesions, lesions of the cord, and even to reflexes. In the majority of cases the disease is associated with epileptiform convulsions or imbecility, which point to some cerebral lesion directly. Again, it may be associated with or be present as a sequel to hemiplegia; or it may be bilateral, suggesting some focal lesion of the

cord. The disease, presenting its unmistakable symptoms, occasionally exists without evidence of structural lesion, and must be considered as a neurosis due to reflex excitement. The following case, which has recently come under my observation, will support this assertion.

On the 10th of March last I was called to see a young negress, nineteen years and six months old, who offered the following history. Her mother died of pulmonary tuberculosis at the age of thirty-five years. Her father is still living and healthy, forty-eight years old. She has not been in health since puberty, being a dyspeptic and a constant sufferer from headache, her headache being always referable to a disordered condition of her stomach.

About five years ago she had an attack of rheumatism, which manifested itself as a synovitis of both ankle-joints, and confined her to bed for a month. She had been married four and one-half years, and in April, 1888, had given birth to a dead child. In the following year she again became pregnant, giving birth to an infant which lived for six weeks. In October last she miscarried, and is now, at the age of nineteen years and six months, again pregnant for the fourth time. Upon examination she presented the following peculiar symptoms: The fingers and toes of the left side were in constant motion, first flexed and then extended, the extension being extreme. Then they would become widely separated, and then overlap and be intertwined with each other. The patient could by will-power control these movements for a moment only, otherwise they were continuous. The general condition of the woman is perfect. She is well-developed, with a clear mind, good speech, and presents no evidence of disease beyond these muscular movements. Sensation and reflexes are normal. She is about six months pregnant with her fourth child. Her limbs are well developed, especially the forearms and the calves, but there is no difference in development between the sound and affected sides upon measurement. She states that these muscular movements were present when she was pregnant with her second child; they came on suddenly about the fifth month of her pregnancy, and disappeared spontaneously about the seventh month.

The case is peculiar in many respects. First, this affection is rare in the negro. Secondly, we rarely meet with it unconnected with mental impairment or paretic symptoms. The fact that the disease should twice be associated with pregnancy appears presumptive that this condition must be regarded as a causative factor, if not the sole cause. The disease closely simulates hemichorea occurring during pregnancy, but the peculiar hyperextension and distortion of the fingers and toes alone, the perfect condition of the brain, spinal cord, and general muscular system; the clear intellect, and the clinical history of the case, taken as a whole, would point to a diagnosis of a condition of athetosis, or hemi-athetosis, if we may so term it, due to some unaccountable reflex caused by pregnancy.

The treatment has simply been rest in bed, with Fowler's solution of potassium arsenite in five-drop doses thrice daily, gradually increased until thirty drops were taken in the twenty-four hours. The muscular movements have gradually disappeared, until now they are hardly noticeable. The disease may be spontaneously

disappearing, as it did previously, as the pregnancy advances, and therefore no stress should be laid upon this treatment.

**A LONG TOILET-PIN ACCIDENTALLY SWALLOWED, AND PASSED BY THE BOWEL AFTER FOUR DAYS.**

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B. J., a colored girl, whose age is recorded as fourteen, but who appeared to be quite three years older, applied at the Jefferson Hospital on the evening of September 4th, stating that she had shortly before swallowed a toilet-pin, a duplicate of which she presented in evidence. As the foreign body seemed to be beyond immediate reach, the girl was advised to apply to the Out-patient Department on the following morning, and this she did shortly after noon. The girl stated that she felt slight pain in the epigastrium, but presented no other evidence of distress, beyond the fear of evil consequences of the accident that had befallen her. She was, however, reassured, and carefully enjoined to live upon a diet consisting exclusively of mashed potatoes and milk, and to examine her stools in the hope of finding the foreign body. She returned in the course of two days, stating that the bowels had been moved, but that the offending body had not been found; the abdominal pain had changed its seat, and was now referred to the right hypochondrium. She was advised to persist in the treatment recommended. A day later she had the satisfaction of passing the foreign body, which, she stated when she brought it to me two days later, was surrounded by a layer of potato. The accompanying illustration represents the actual length of the pin.



Cases of the kind to which that here reported belongs present certain features of interest. In the first place, the body was a fairly large one, and besides, having a sharp point, it exposed the patient to all of the risks attendant upon the presence of such a body in the gastrointestinal tract. In the second place, foreign bodies have not always been swallowed when patients come complaining of such accidents. Within a year I have seen a woman who stated that she had swallowed a rather large plate of artificial teeth. The history was that, feeling unusually fatigued, she had, contrary to her custom, retired without removing the plate. On arising the next morning, the teeth were not in her mouth, and they could nowhere be found. The woman complained of considerable abdominal pain. There was no difficulty in swallowing, and a probang introduced into the esophagus encountered no obstruction. The woman was placed upon a mashed-potato diet, and reported several times, but finally failed to present herself. Inquiry, however, elicited the information that the missing plate had been found in some place in which it had previously been overlooked.

A third contingency that may arise is that a person has swallowed a foreign body and his statement be not

believed. Just such a coincidence occurred within my experience in the case of a man at the Philadelphia Hospital, believed to be insane, in which the complaint of having swallowed a plate of teeth, with the accompanying symptoms, was considered to be a delusion, to which little attention was paid, until the condition became threatening, when exploration revealed the presence of a foreign body in the esophagus. Esophagotomy was performed, and the foreign body removed, but the patient unfortunately died of a septic pneumonia.

**RIGHT HEMIPLEGIA AND APHASIA FOLLOWING DIPHTHERIA IN A CHILD.**

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IN May, 1891, I attended Florence T., eight years old, during a severe attack of diphtheria. The local and constitutional manifestations of the disease were pronounced, but the patient passed safely through the severe stages, and in about ten days was free from pyrexia, had a clean throat and a good pulse. The child seemed so well that I ceased making daily visits. One morning, however, I was hurriedly called, and found her with complete right-sided hemiplegia and ataxic aphasia. The right side of her face was entirely paralyzed. Her mother informed me that the child was talking and laughing an hour before I was summoned.

She was not unconscious at any time. The usual evidences of pharyngeal paralysis existed. No cardiac bruit was detected. The patient's mentality seemed sluggish for a few hours subsequently to the attack, but thereafter was normal.

Her repeated attempts to make herself understood were unavailing, as she produced only inarticulate sounds. Sensation was normal, so far as I was able to elicit. The patellar reflex was very weak and alike on both sides. Headache was not present. No pain was felt in any part of the body. After the lapse of two days, she was able to extend, but not to flex, her leg. Motor power gradually returned, first in the leg and thigh, then in the hand and arm, lastly in the face and pharynx. In about six weeks the little patient was playing out-of-doors, apparently as well as before her illness.

A few days ago I went to see her, and was struck by her frail appearance. She has grown very little, if any. She is very thin. Her eyes are large and her pupils dilated. No areas of anesthesia were found. Her patellar reflexes on both sides were almost imperceptible. Her sister states that the child has always spoken slowly since her illness. Her grandfather states that she has never been the same since, but is weak in body and mind.

436 FRANKLIN STREET.

**GUNSHOT INJURY OF THE GREAT SCIATIC NERVE.**

BY GEORGE S. BROWN, M.D.,  
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H. K., a Russian Jew, thirty-five years of age, was admitted to the Charity Hospital March 23, 1889. On February 2, 1889, he had been wounded through the right thigh by a ball from a pistol. The ball entered

in the median line of the thigh at the middle third, and, passing close to the bone, came out behind about one and a half inches higher. Upon admission the wounds were entirely healed, but he came seeking relief from the intolerable pain that began immediately on reception of the injury, and, except when under the influence of morphine, had continued steadily during the entire seven weeks. The pain was sharply neuralgic in character, and torturing in its intensity. On careful examination its area was found to include the whole of the foot and leg—the distribution of the great sciatic nerve. The muscles of the calf and sole were in almost incessant painful spasm. He required half a grain of morphine sulphate hypodermatically every four hours.

It was quite clear from the history that the sciatic nerve had been injured by the ball, and it also seemed evident that the nerve was now involved in a cicatrix. An exploratory incision was made on March 25th, two days after admission. The patient was anesthetized, and an Es-march bandage applied and fixed above the bullet-marks. The patient was laid prone, and an incision six inches long made in the middle line of the thigh posteriorly. Deep dissection between the long head of the biceps and the vastus externus exposed the nerve. At the point where the bullet had passed was an induration, a cicatricial mass, binding the body of the nerve firmly to the sheath of the biceps. With the finger-nail, this mass was dissected away from the nerve, down to its center, which was a wire-like cord about an eighth of an inch in thickness and a quarter of an inch in length. This was so hard that it was necessary to cut it off close to the nerve. It was at first thought to be a branch, but it extended no further than the sheath of the muscle, and consisted of the densest fibrous tissue. The nerve itself was thickened and indurated at this point, and it was a question whether simply freeing it would relieve the pain.

Every care was taken to insure asepsis throughout the operation, and the wound was dressed with the intention of performing a second operation for the resection of this indurated portion of the nerve if the pain was not relieved. Complete primary union was obtained, and the subsequent history was as follows:

From March 25th, the date of operation, until April 1st, when the first dressing was removed, the pain was very much worse, owing, no doubt, to the pressure of the effusion following and due to the incision. On April 2d, the pain began to diminish, and on April 5th the pain and spasm in the calf were entirely relieved, but were at times still intense all over the foot. On April 10th the pain was confined to the dorsum of the foot and to one small spot on the plantar surface internally. On the 13th he still complained of some pain at the spot on the sole. The morphine was steadily reduced as the pain subsided, and on the 17th it was cut off entirely, and the patient admitted that his pain was all gone.

Aside from its rarity, this case is of great interest to me in bringing up the possible necessity of resecting the nerve. I have been unable to find mention of any similar case, but I believe that almost any procedure would have been justified to relieve such intense pain as this patient suffered. We were fortunate, however, in not being forced to resort to any uncertain step.

In this case, too, must be noted how much depended on primary union. If the wound of incision had sup-

purated it would have left the nerve more than ever involved in a mass of cicatricial tissue.

## MEDICAL PROGRESS.

**Immunity to Enteric Fever.**—STERN (*Deutsche medicin. Wochenschrift*, 1892, No. 37, p. 827) has made a number of observations in seven cases, as to the influence of the blood-serum at varying intervals after recovery from enteric fever. In five cases he found that after an attack of enteric fever the blood displayed not increased but strikingly diminished bactericidal activity; on the other hand, in one case, the blood-serum, as well as the other fluids of the body, possessed decided bactericidal activity seventeen and a half years after the attack. In four of six cases in which the blood was obtained shortly (from four days to five and a half weeks) after convalescence from enteric fever, the serum exhibited the property of protecting mice from infection with cultures of typhoid-bacilli, while the serum of persons who had never had enteric fever exhibited no such property. In three of the cases it was found that injections of a mixture of the serum with a sterilized extract of typhoid-bacilli, in equal parts, or in the proportion of two to one, in otherwise lethal doses, were well borne, while the serum of a number of control-persons failed to exercise any protecting influence. The conclusion is thus reached that the protective influence of the blood-serum of persons who have recovered from an attack of enteric fever is dependent upon a neutralization of the products of the presence and activity of the typhoid-bacillus and not upon a distinctive action upon the bacillus.

**Death from Embolism of the Basilar Artery in the Course of Diphtheria.**—MCPHEDRAN (*Canadian Practitioner*, 1892, No. 19, p. 454) has reported the case of a girl twelve years old, with diphtheria, who, while apparently progressing favorably, lost consciousness suddenly, became comatose, and died in the course of six hours. At the autopsy a firm, white embolus was found at the bifurcation of the basilar artery. The heart was not examined, but neither it nor the kidneys had presented any evidences of disease.

## THERAPEUTIC NOTES.

**The Treatment of Cholera.**—BARTH (*Deutsche medicin. Wochenschr.*, 1892, No. 36, p. 817) has proposed the injection into the bladder of a physiologic solution of sodium chloride in the treatment of cholera when the blood presents evidences of thickening, as evidenced by anuria. He maintains that the mucous membrane of the bladder possesses absorptive powers, and ascribes the anuria that occurs in part to the resorption from the bladder of the watery portion of the blood.

### For Cholera.—

R.—Resorcin	3ss.
Acid. hydrochlor.	} . . . aa mxx.
Tinct. opii	
Syrup. simplicis	f3v.
Aquæ	f3vj.—M.

S.—A tablespoonful every two or three hours.

SONNENBERGER, *La Semaine Méd.*, No. 48.

# THE MEDICAL NEWS.

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SATURDAY, OCTOBER 22, 1892.

### THE RISE AND DISSEMINATION OF SYMPHYSIOTOMY.

UNTIL this present year, Naples was almost exclusively the home of symphysiotomy during a period of twenty-five years. The operation was revived in that city in 1866, after it had not been performed in any part of the world from 1858 to 1865; and the persevering man who did this, and carried it to its present degree of success, still lives to see the fruit of his labors. Working quietly and in faith, PROF. OTTAVIO MORISANI now sees the fulfilment of his hopes to their full extent; and, through antiseptic management, to a degree beyond what he could hardly have looked for even ten years ago, or, we may say, down to January, 1886, less than seven years ago. Statistical records have been very carefully kept; and a certain degree of hopefulness was expressed in 1881, when the results of the first fifty operations showed a death-rate of 20 per cent. of the women and 18 per cent. of the children. The success under the Säger-Cesarean method, after its introduction in 1882, and a train of misfortunes under symphysiotomy in the five years ending with December, 1885, during which the mortality in inexperienced hands rose to 44 per cent. of the women, had the effect to becloud the status of symphysiotomy, and make its few adherents more

cautious in their method of preparing the patient, operating upon her, and treating her afterward. This brought about a perfection in the technique which has reduced the death-rate below 2 per cent., or one woman lost in fifty-two. The fetal loss, counting the stillborn, moribund, and deaths in the first three days, amounts to seven in fifty-two, under eighteen operators.

Very few out of Italy knew what a quiet, good work was going on in Naples, and but little attention was drawn to it through the publication of cases in journals. From January 1, 1886, to January 1, 1892, there were twenty-eight operations in Naples, and but one in any other Italian town; and as a result of these twenty-nine, there was a loss of one woman (from causes not traumatic) and three children (born asphyxiated). The operation necessarily grew into favor; and from one case each, in 1886 and 1887, the number gradually increased to ten in 1891.

It was now time to speak out, as there was a chain of evidence that could not fail to convince unprejudiced minds in other countries. Full of these facts, DR. P. G. SPINELLI, of Naples, visited Paris in November, 1891, and conferred with DR. VARNIER, editor of the *Annales de Gynécologie*, who, with PROF. ADOLPHE PINARD and DR. FARABEUF, made a series of observations upon the cadaver. PROF. PINARD read a paper on "Symphysiotomy," at the Clinique Baudelocque, on December 7, 1891; and DR. SPINELLI, under promise to DR. VARNIER, sent him a report of twenty-four operations, which he published in his journal of January 15, 1892, the report being dated December 11, 1891. The paper of PROF. PINARD appeared in the same journal a month later; but, in the meantime, he had performed a symphysiotomy on February 4, 1892, at the Clinique Baudelocque, saving the woman, but losing the child on the third day, from meningeal hemorrhage, it having been delivered by version. Thus, after an interval of seventy years, was reintroduced into Paris an operation denounced by BAUDELOQUE. PINARD made a pubic section again on February 25th, and, on this occasion, with entire success. He has, in all, operated upon eight women in seven months. PROF. CHARPENTIER, of Paris, visited Naples last winter, examined two women, eleven and six weeks respectively after their operations, and could find no motion at the pubes, although the first woman had been operated upon twice. He returned to Paris on March 15th, and

advocated the method in the number of VARNIER'S journal for April. PROF. STEPHANE TARNIER has operated once, and DR. CHARLES PORAK twice, with entire success, thus giving Paris eleven cases in seven months.

Germany has a credit of three operations this year: one under PROF. WILLIAM A. FREUND, of Strassburg, and two under PROF. LEOPOLD, of Dresden, with no deaths.

The United States have also had three, all of the women being saved. The first child died, after twenty-four hours, from head-compression of twelve hours in lower pelvis. The other two children are living. The operators have been: PROF. CHARLES JEWETT, of Brooklyn, September 30th, ult.; PROF. BARTON COOKE HIRST, of Philadelphia, October 3d; and PROF. ANNA M. BROOMALL, of Philadelphia, October 7th.

There were ten operations in Naples last year, and eighteen out of Naples in seven months of this year. Since September 22, 1890, there have been thirty-four operations in four countries without a woman being lost that we have heard of, and with the loss of but two children. This year has doubled the operations of any year since 1777, with four months still to hear from.

#### "OCULISTS AND OPTICIANS."

We have before us the advertisement of an "optician and oculist," in which the chief claim to public patronage is based on the ground that the advertiser is a "Graduate from School of Optics." He says of himself:

"I GUARANTEE TO FIT ALL CASES OF YOPIA, PER-SHIOPIA, HYPROPIA, STIGMATISM, OR WEAK MUSCLES OF THE EYE. RX GROUND TO ORDER."

Now, we would not for an instant imply that this perfect self-revelation of combined ignorance and quackery is to be taken as the standard of opticians generally. It is quite as amusing to the best of them as it is to the physician. But what we wish to emphasize is that this ludicrous ass and his like are far less dangerous to the community than the sort of optician-quack who would not make such blunders, but who in more correct English advertises himself as an oculist.

In all correct usage, an oculist is simply a physician whose specialty in practice is ophthalmology. The entire profession is agreed, without discussion or exception, that the oculist must be a physician,

and whatever the relative importance of refraction errors and their correction to diseases of the eye, there is no permissible question as to the fact that every case of ocular disease or abnormality, whether refractive, reflex, or inflammatory, must be treated with regard to its systemic relations. Directly or indirectly, negatively or positively, every case of special disease is bound up with questions of general disease, and should pass through the hands of the physician, who alone is capable of recognizing these systemic relations.

By the allowed use of the word oculist on the part of opticians there is being instilled into the minds of the community a confidence that will cost that community not a little suffering. It is a sneak-game for the optician to pose as an ophthalmic surgeon or physician. Every quack, as we all know, is up to this trick of imposing on the community in the name of medicine. The word oculist properly denotes and connotes the physician-specialist. But most persons, utterly undiscerning in such matters, know no difference between the terms oculist, ophthalmologist, and optician. Let the optician who poses as an oculist frankly put on his signs and advertisements: OPTICIAN AND PHYSICIAN, and the fraud will soon become patent by reason of prosecution for illegal medical practice.

It is becoming common for opticians to out-manuever the medical profession by hiring fellows who may legally put M.D. after their names to come to their store and "examine eyes," before selling spectacles to certain of their customers. What kind of medical advice a patient would get from a "physician" who will hire himself out to a spectacle-peddler may be easily imagined.

It would be an interesting point to have settled by legal judicial decision whether the word *oculist* denotes *physician* or not; and, if so, whether an optician in advertising himself as a physician, when he has only hired a renegade physician to work for him, is not liable to the penalties of the law. If the word oculist does not mean physician, does its Greek equivalent ophthalmologist? If oculist does not legally mean physician, then the medical profession must turn the word over to the traders and choose a term that does have that meaning, and educate the community in this little, but important, bit of philologic wisdom.

One lower stratum of degradation has been proudly reached: the spectacle-peddler, trading on the gullibility of people, by the use of a stolen name

of somewhat doubtful significance, turns peripatetic and bamboozles several States instead of one city. The alternative title, if the peripatetic gentleman were entirely frank and truthful, would then be, not *Optician and Oculist*, but *Drummer and Doctor*, or *Peddler and Physician*.

To the medical profession it must be repeatedly pointed out: This is your affair; the problem is one for the entire profession to solve. If an ophthalmic surgeon or a society of ophthalmologists takes the matter up, the cunning crew who know no ethics but tricky self-interest at once grin a knowing smile and betray their own moral standing in the suggestion of "jealousy" and "class-interest." The brave man, of course, doesn't care a button for such ascription to him of unworthy motives by those who know no other kind of motives. It is not that ophthalmologists are at all frightened by the "competition" of these hermaphroditic, peripatetic, peddler-physician folk. Their wretched blunders make work for the genuine oculist, but in doing so the eyes and health of the customer-patient are ruined. But the reform should not be the work of individuals or classes. The gynecologist, laryngologist, surgeon, and general physician are all interested in the honor and progress, first, of medicine, and, second, of any branch of that profession. We are a body of men working for the public good by means of a special tool—medicine. If the barber should take to bloodletting again, or the faith-cure crank should kill someone by neglect, the surgeon and general physician would rightly expect the specialist to join in stopping the disgrace. Local and congressional bodies of physicians should by common action determine the significance of the word *oculist*, or take such action as will legally determine it, and they should also settle the professional standing of those young or unsuccessful doctors who sell personal and professional honor to the spectacle-tradesman for a few dollars a week.

#### ONE DOLLAR COMMISSION.

Not long ago, and possibly at present, one or two drug-stores of a large American city kept a series of Yale-locked boxes behind the prescription counter, each marked with the name of a physician of the city. The boxes had a slot sufficiently large to admit a silver dollar, which, wrapped in the prescription, was placed in the box, when, by the careful direction of the writer, the patient had been

piloted to the store. The special key was carried by the honorable gentleman whose professional card was upon the box.

If this seems ancient history, there lies before us a personal letter to a Philadelphia physician, dated September 30, 1892, in which with blank order checks, etc., at command, a "mineral spring" company offers to give the physician one dollar for "each order, at \$5.00 cash with order, you send or cause to be sent to us," for a dozen bottles of the medicinally and miraculously potent water. "It must not be understood as a discount allowed to your patient."

Do we invite and relish the insult?

### SELECTION.

#### ONE WAY OF INCREASING THE RETAIL DRUGGIST'S RECEIPTS.

WHILE retail druggists are complaining of cutters and of their loss of margin in profits on handling patent medicines, many of them overlook a source of patronage the cultivation of which would add materially to their income.

There are numerous physicians to-day, buying their medicinal supplies from physicians' supply houses, who with proper treatment might be induced to patronize their local druggist. Do you do what you can to accommodate the doctor and make it to his interest to buy from you? There is not one doctor in a hundred but would prefer to buy his drugs in small quantities as he requires them, rather than place an order with a physician's supply house for a large amount. The doctor would rather invest fifty or seventy-five cents in a small package than order \$25 or \$50 worth at a time from a supply house at a distance, if you would break stock packages and allow him a reasonable proportion of your discount. The physicians' supply houses are here to exterminate the retail druggist if they can. Why not retain your natural customer?

Do you try to win the confidence and coöperation of the doctor by refusing to advise people who come to you for medical advice, and suggesting they apply to one of your doctor-customers? Probably not. Do you refill prescriptions on the patient's request, without orders from the physician? If you do, you make yourself a competitor of the doctor and cannot expect his patronage. If you pretend to cater to him and make every effort to cut his throat, you may expect the doctor of the future to do his own dispensing.

As a recent writer pertinently says: "Between the diminished prescription-trade and the low rates at which patent medicines are sold by these general stores, the druggist is verily in a predicament. There is but one true solution to the dilemma. The medical and pharmaceutical professions should be more intimately related, and should work hand-in-hand. The physician should not be a dispenser of drugs; he should be content with receiving compensation for his services. The

pharmacist should be a compounder of prescriptions, and under no circumstances should he offer advice to the public in matters pertaining to the health of the individual.

"Let the pharmacist refuse to countenance quackery by abolishing from his establishment all patent medicines and advertising-matter pertaining to the traffic. At the same time let him respect the rights of the physician by refusing to refill any prescription unless authorized by the physician. The dealing in and recommending of patent medicines, counter-prescribing, and refilling of prescriptions are directly opposed to the rights and interests of the medical profession, and will ever be opposed by every honorable physician. Until the pharmacist learns to respect these rights he cannot expect to have the hearty sympathy and support of the physician. Let him assume the duties of a true and honorable pharmacist, and the physician will again give him the merited support.

"The medical profession refuses to countenance quackery in any of its phases; it refuses to associate with advertising physicians, and will never grant the compounder of its prescriptions a privilege which its own members will not themselves assume. Physicians and pharmacists 'cannot serve both God and mammon,' and must choose whom they will serve. The doctor must either be a physician or a quack. The druggist must either be a pharmacist or a quack."—*Bulletin of Pharmacy*, September, 1892.

## CORRESPONDENCE.

### THE METRIC SYSTEM.

To the Editor of THE MEDICAL NEWS,

SIR: THE MEDICAL NEWS of August 20th contained an article by Dr. A. L. Benedict, of Buffalo, on "The Metric System;" and, without any intention of criticising this paper in itself, I should like to call attention to a few points concerning the metric system, suggested by its perusal.

We are so accustomed to hear the praise of this system that few persons are aware of its defects; nor would any one suppose, from the chorus of its worshippers, that it was in any respect short of perfection. Yet every student of metrology knows, or at least may know, that the few advantages that it seems to possess can never compensate for its great inconveniences and its failure of adaptability to the great bulk of human transactions, and that in many respects it is highly objectionable both from a scientific and a practical point of view.

The metric system lays claim to superiority over other systems in virtue of (1) Its scientific excellence, (2) Its great convenience, (3) Its international character.

1. *Its scientific excellence.* The metric system is essentially a decimal system. Its advocates abhor the use of vulgar fractions, and would, if possible, expunge them from our arithmetic, and yet it is itself based upon a vulgar fraction, a quadrant, or fourth of a terrestrial meridian. This little inconsistency may be deemed unimportant, but it is the beginning of still greater deviations from scientific rectitude.

Again, the metric system, in taking as its unit of linear measure a portion of an arc of a terrestrial meri-

dian, makes use of a curved line to measure straight lines. In this it is apparent to everyone that it is eminently unscientific. In the words of Sir John Herschel, "It is a scientific sin."

Yet again, the metric system in taking as its unit of measure a portion of the meridian of Paris, by actual measurement, but which, since the establishment of its standards has turned out to be incorrect, is based on false standards, and is consequently merely arbitrary and grossly unscientific.

2. *Its convenience.* The metric system bases this claim chiefly upon its decimal notation. A decimal notation has its conveniences, and is very useful in the art of bookkeeping, but in the great majority of human occupations it can never compete with the duodecimal and octonary, both of which enter largely into Anglo-Saxon weights and measures. The number 10 is divisible without a fraction only by 2 and 5, while 12 is divisible by 2, 3, 4, and 6. The number 8 is divisible successively by 2 down to units without a fraction; so that it is easy to divide anything into eight equal parts, but not into ten. Both of these systems of notation are in constant use by every mechanic, the foot-rule having its duodecimal divisions into inches, which are again subdivided according to the octonary notation into halves, quarters, eighths, and sixteenths.

Of the apothecary's art Prof. Oscar Olberg says: "There is probably no other science or art in which the great convenience of dividing quantities into halves, quarters, eighths, sixteenths, thirty-seconds, and sixty-fourths is so obvious as it is in the measuring out and subdivision of doses, especially of the doses of tinctures, wines, solutions, etc. The trifling advantage of exact decimal proportions is nothing in comparison with the great practical value of facility of easy progressive subdivision of the dose without fractions."

Again, the units of the metric system are inconvenient in size and not adapted to practical use. The meter is altogether too long, the centimeter too short. Weights and measures should have some relation to the size and strength of the average man, and some relation, too, to the materials to be weighed and measured. Not to go more deeply into this point, on which, however, there is much that might be said, it does seem to be much more likely that the standards that have been handed down to us through countless generations from our forefathers should be more proportionate and fitting than a late and arbitrary invention that is so greatly at variance with them.

3. *Its international character.* The fact that the metric system claims to be based upon the length of an arc of the meridian of Paris, and not upon the mean of all possible meridians, deprives it of its international character, and makes it distinctly French.

The advocates of the metric system claim, however, that it is used by half the civilized world, and that in this respect it may be called international. As it is used by neither Great Britain nor the United States, and as these are the great storehouses and workshops of the world, to which all of the people that use the metric system at home come to buy, it follows that these very people must be constantly using our weights and measures in their daily business transactions, and the Anglo-Saxon, not the metric, is really the international system

of weights and measures, a system which, modified perhaps, is destined to become even more universal than the English language.

Lastly, the metric system is an intolerant system, an ally of despotism. This is a free country, and, without any permissive Act of Congress, any man could use the metric system if it pleased him and those with whom he had dealings; but this is not enough, and the advocates of this system, which sprang from an atmosphere of violence and intolerance, would force it upon the people of this country whether they like it or not. It is a system uncongenial with Anglo-Saxon freedom, and will never be adopted by the people of that race, however much the scientific gentlemen that choose to bow the knee at its shrine may try to persuade them. It would indeed be a monstrous thing that we, who give laws to more than half the human race, should have to acknowledge ourselves incapable of perfecting our own system of weights and measures, and have to bow our necks to the dominion of this foreign yoke.

Let us then be chary of our homage to this idol of science, and if we must join its followers let it be under protest. I am sure that I voice the sentiments of many thousands in our profession when I say to our medical writers: "Don't spoil good books, written in English, for an English-speaking audience, by interlarding them with the hieroglyphics of a foreign tongue."

JOHN FORREST, A.M., M.D.

CHARLESTON, S. C.

#### CROUPOUS PNEUMONIA CAN BE ABORTED.

To the Editor of THE MEDICAL NEWS,

SIR: I read with considerable interest the article by Thomas J. Mays, M.D., in THE MEDICAL NEWS, September 24, 1892, page 348, headed "Can Croupous Pneumonia be Aborted?" My experience goes to show that this question can be answered most positively in the affirmative. I could give many more cases than the one here reported, but deem it unnecessary to occupy your valuable space with repetitions.

About the middle of April, 1872, I was called to see Miss M. E., nineteen years old, a rather tall, slim blonde, one of a number of dining-room girls at the Revere House, in Ionia, Mich. She was pretty sick for two weeks with a rather severe remittent fever, which left her much prostrated. On the sixteenth day I discharged her, leaving a prescription for a good stiff tonic, stock ale, and a generous diet. Two days later, at about 6 P.M., I was sent for in great haste to see my patient again. The evening before, while the proprietor and his family were at supper, the girl got out of her bed, slipped on a light wrapper and sat in a rocking-chair, in order to agreeably surprise her friends when they returned. The evening was cold and blustery, and she became much chilled before she went back to bed. At 5 A.M. on the following morning she was seized with a severe chill. The proprietor of the hotel, having been an army nurse, set to work to get her out of this condition. She was quite ill all day, and in this condition I found her. She was pillowed up in bed, lying on her back, as she could breathe better in that position; her face, but more especially her cheeks, were livid; the finger-nails were inclined to look bluish. The respirations were 46, the

pulse 130, and the temperature 106°. A short, hacking, "choky" cough was present. On physical examination nearly the whole of the left lung was found to be involved in a process of acute inflammation. The crepitant râle could be heard over nearly the entire lung posteriorly. I knew well enough that the patient could not live in the debilitated condition in which she then was, if the disease followed its usual course; so the only chance was to abort the disease, if such a thing were possible.

Fortunately, I had received, a few days previously, Niemeyer's *Practice*, and, more fortunately, I had read the article on pneumonia, from which, for the first time, I had learned of the idea that pneumonia might be aborted by cold applications to the chest.

With the consent of the patient and her friends, I was allowed to try the "new treatment." A large tub was obtained, filled half-full of "chunks" of ice, and then nearly filled with water. This was stirred rapidly until the temperature of the water came down to 50° F. A large double woollen blanket was wrung out of this water and the patient was then wrapped in it from the chin to the toes. It was changed every thirty minutes until the temperature reached 104°, when the cold-pack was not allowed to come below the middle of the thighs. At 1 A.M. the temperature fell to 102°, when only the chest and upper part of the abdomen were enveloped; by 6 A.M. the thermometer stood at 98°, the pulse at 60, and the respirations at 16, with the face pale. The patient was then thoroughly rubbed, put into warmed blankets, hot bottles applied to her feet, and a half-ounce of brandy administered. She fell into a quiet sleep. At 10 A.M. I examined the chest again, and found no trace of the crepitant râle, and only a few moist râles at the base of the left lung. She received also four drops of the fluid extract of veratrum viride; then two drops every hour for four doses; then one drop until 4 A.M., when it was discontinued, it having lowered the pulse sufficiently. The patient made a rapid recovery.

In regard to veratrum viride I may say that I ceased using it many years ago, as it has no particular effect in controlling the temperature. In fact, the highest temperature I ever observed in acute lobar pneumonia was in the case of a young man in which the temperature ranged between 104° and 106.5° for ten days, notwithstanding the fact that the pulse was never allowed to go over 70 or under 60 by the use of veratrum viride.

I consider the application of cold to the chest a great, if not absolutely the greatest, therapeutic agent that we have in acute lobar pneumonia; but for various reasons—prejudice of patients or their friends, or the weakness of the doctor—few use it.

F. GUNDRUM, M.D.

ESCONDIDO, CAL.

#### DETROIT.

*The Cholera Scare—State and Municipal Health-boards—  
—Cesarean Operation—The Medical Societies—  
A Munificent Benefaction—The  
Medical Colleges.*

IN view of the threatened approach of cholera, our city has recently occupied a position of considerable importance from a sanitary standpoint. Situated on the

Canadian frontier, and traversed by the principal trunk lines of the Dominion, the city has necessarily been in constant danger of admitting European emigrants who had not passed through the New York quarantine or undergone any sanitary inspection equivalent to quarantine at the hands of the Canadian authorities. This condition of things led to the proclamation of a twenty-day quarantine against all emigrants by both the State and municipal health-boards. From this action ultimately resulted one of those lively "rows" which always cause the finger of scorn to be raised at the medical profession, and singles it out as a profession incapable of unanimity when any great problem is uppermost. The State and municipal health-authorities immediately came into conflict with each other. The city Board of Health maintained that the State Board only had an advisory function in municipal affairs, and the State Board maintained supremacy for its action in enacting any sanitary regulation necessary for the protection of the whole State. Both State and city authorities, therefore, appointed inspectors, whose duty it is to visit all in-coming trains and quarantine suspects or emigrants unprovided with recognized sanitary passports. Sometimes the State official will arrest the progress of a number of emigrants, and then the city official will give them permission to proceed. We have now a large number of inspectors laboring at an aggregate cost of \$75 a day, and if we reap any advantage from their services it is due rather to agreement among themselves as to what is proper than to any reconciliation of the authorities they represent. The state of affairs is not an edifying one, and gives the unbiased observer a very decided opinion as to the leakiness of the quarantine system generally. The abatement of the cholera scare is a relief to everybody, and we trust that if new danger arises we shall be able to present a more united front to the enemy.

Another successful case of Porro-Cesarean operation took place here lately. It was performed by Dr. J. H. Carstens, of this city; this is the second successful case of the kind the same operator has had this year.

The medical societies, of which we have a goodly number, have recently been organizing for their winter's work, electing their officers, and holding anniversary celebrations. The largest of these societies is the Detroit Medical and Library Association, having a membership roll of 165 active resident members. This society recently held a very successful anniversary dinner given in its honor by its retiring President, Dr. G. W. Stoner, of the Marine-Hospital Service. Dr. Stoner has been an able executive officer, and the society was never more flourishing.

Mr. Hiram Walker, a wealthy and benevolent gentleman, known, doubtless, to some of your readers for his connection with the celebrated "Walker Club," has donated \$125,000 for the erection of a new building for the "Children's Free Hospital." The city is not in urgent need of new hospitals, but the charity thus remembered is a very deserving one, and will, doubtless, justify the munificence of its benefactor.

The medical colleges are in full operation. The class at the Detroit College of Medicine numbered 216 on the opening day, which indicates a largely increased attendance.

### THE ACTION OF CHLOROFORM AS AN ANESTHETIC.

To the Editor of THE MEDICAL NEWS,

SIR: Having been asked to undertake a research at the expense of the Government of his Highness, the Nizam of Hyderabad, India, with the object of reconciling, if possible, the conflicting views concerning the action of chloroform, I am anxious to receive from American physicians and surgeons records of any cases in which it was noticed that the heart stopped beating before respiration, or respiration stopped before the heart.

Notes concerning any such cases will be considered strictly confidential, provided the reporter states his desire that his name shall not be mentioned in the report of the research when it is finished. Otherwise due credit will be given for any information received.

Very truly yours,

H. A. HARE, M.D.

JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

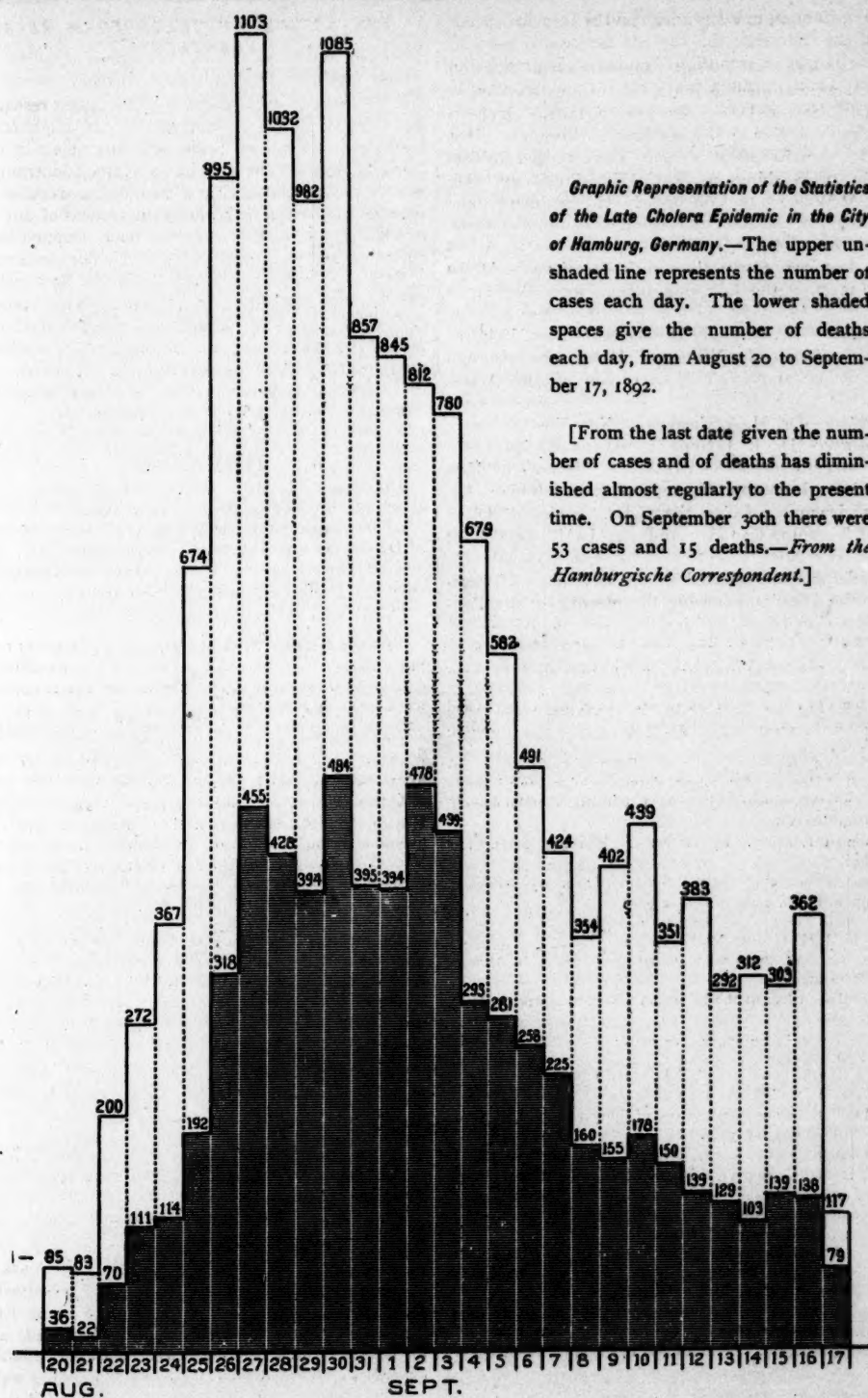
### REVIEWS.

DISEASES OF WOMEN: A MANUAL OF NON-SURGICAL GYNECOLOGY DESIGNED ESPECIALLY FOR THE USE OF STUDENTS AND GENERAL PRACTITIONERS. By F. H. DAVENPORT, M.D., Instructor in Gynecology, Harvard Medical School. Duodecimo, 314 pages. Philadelphia: Lea Brothers & Co., 1892.

THE second edition of this work meets in every respect the requirements of a practical, concise hand-book of non-surgical gynecology. The author keeps constantly before him the distinction between a book of this kind and a complete work on gynecology and all its branches; for purposes of diagnosis and treatment he presents to the student all that is needed, and leaves for the specialist the more elaborate branches of pathology and surgery. His method of dealing with the subject of gonorrhea, impressing the reader with the importance of treatment and the evils of its neglect, is in accord with the teaching of advanced gynecologists and pathologists. It is to be regretted that the author fails to devote more space to the subject of antiseptics. He does not neglect it, but the importance of this subject, even in the non-surgical department of gynecology, calls for a careful exposition. The author's preference for Sims's speculum has thrown the uses of the other forms of specula into the background. This is a disadvantage, as the ordinary reader is not always in a position to avail himself of the assistance that is usually required when the Sims speculum is used.

ALASKANA; OR, ALASKA IN DESCRIPTIVE AND LEGENDARY POEMS. By PROF. BUSHROD W. JAMES, A.M., M.D. Philadelphia: Porter & Coates, 1892.

IN a pleasing style, always interesting, often elevated, never puerile, but never great, Dr. James has recorded his impressions of the natural beauties of Alaska, described the people of that country, and preserved their legends. The meter of Hiawatha, and of the English translation of the Kalevala, has been adopted, and is gracefully managed. The book is a decided addition to minor English literature, and places the author well forward in the ranks of the increasing number of medical men who have chosen verse-writing as their avocation.



## NEWS ITEMS.

The American Public Health Association will hold its twentieth annual meeting in the City of Mexico, November 29 and 30 and December 1 and 2, 1892. Dr. Felix Formento, of New Orleans, La., is President; Dr. Domingo Orvañanos, of Mexico, Mex., and Dr. Walter Wyman, of Washington, D. C., Vice-Presidents; Dr. Irving A. Watson, of Concord, N. H., Secretary; and Dr. J. Berrien Lindsley, of Nashville, Tenn., Treasurer.

The American Electro-therapeutic Association.—At the recent meeting the following officers were elected for 1893:

*President*—Dr. Augustin H. Goelet, of New York.

*Vice-Presidents*—Dr. William F. Hutchinson, of Providence, R. I.; and Dr. W. J. Herdman, of Ann Arbor, Mich.

*Secretary*—Dr. M. A. Cleaves, of New York.

*Treasurer*—Dr. R. J. Nunn, of Savannah, Ga.

*Executive Committee*—Dr. W. J. Morton, of New York; Dr. G. Betton Massey, of Philadelphia; Dr. Robert Newman, of New York; Dr. Charles R. Dickson, of Toronto, Canada; and Dr. J. H. Kellogg, of Battle Creek, Mich.

Philadelphia was selected as the next place of meeting, on the Tuesday following the meeting of the Pan-American Congress.

## BOOKS AND PAMPHLETS RECEIVED.

Treatment of Fractures of the Lower End of the Humerus and of the Base of the Radius. By John B. Roberts, A.M., M.D. Reprint, 1892.

Du Nombre comparatif, pour les Membres supérieurs et inférieurs de l'Homme, des Fibers Nerveuses d'origine cérébrale destinées aux Mouvements. Par MM. Paul Blocq et J. Onanoff. Paris: Gauthier-Villars et Fils, 1892.

Jacksonian Epilepsy. By Howell T. Pershing, M.D. Reprint, 1892.

Annual Announcement of the National Veterinary College of Washington, D. C., Session of 1892-93.

The Uses of Fever. The Dangers of Antipyretics in Typhoid Fever. By J. H. Musser, M.D. Reprint, 1892.

Grave Forms of Purpura Hemorrhagica. By J. H. Musser, M.D. Reprint, 1892.

Tuberculous Ulcer of the Stomach. By J. H. Musser, M.D. Reprint, 1892.

Some Clinical Remarks on Dysentery. By John H. Musser, M.D. Reprint, 1892.

On the Gastric Disorders of Pulmonary Tuberculosis. By J. H. Musser, M.D. Reprint, 1892.

The Limitations and the Powers of Therapeutics. By J. H. Musser, M.D. Reprint, 1892.

Contributions by Physicians to English and American Literature. By Robert C. Kenner, A.M., M.D. Detroit, Mich.: George S. Davis, 1892.

Retro-antegrade Amnesia, with Report of Two Cases. By J. T. Eskridge, M.D. Reprint, 1892.

How to Avoid Contracting Tuberculosis (Consumption). Published for Gratuitous Distribution by the Pennsylvania Society for the Prevention of Tuberculosis. Tract I.

A Case of Osteo-arthritis Tuberculosis. By Charles H. Merz, A.M., M.D. Reprint, 1892.

Wintering in Egypt. By Frederick Peterson, M.D. Reprint, 1892.

A Dictionary of Psychological Medicine. Edited by D. Hack Tuke, M.D., LL.D. Vols. I and II. Philadelphia: P. Blakiston, Son & Co., 1892.

Foster's Encyclopedic Medical Dictionary. Vol. III: FASC-MINJ. New York: D. Appleton & Co., 1892.

Materia Medica and Therapeutics. By L. F. Warner, M.D. The Student's Quiz Series. Edited by Bern. B. Gallaudet, M.D. Philadelphia: Lea Brothers & Co., 1892.

A Manual of Organic Materia Medica. By John M. Maisch, Ph.M., Ph.D. Fifth edition. Philadelphia: Lea Brothers & Co., 1892.

Transactions of the Texas State Medical Association, Twenty-Fourth Annual Session, held at Tyler, Texas, April 26, 27, and 28, 1892. Galveston: J. W. Burson Company, 1892.

An American Text-book of Surgery, for Practitioners and Students. Edited by William W. Keen, M.D., LL.D., and J. William White, M.D., Ph.D. Philadelphia: W. B. Saunders, 1892.

A Manual of Obstetrics. By A. F. A. King, M.D. Fifth edition. Philadelphia: Lea Brothers & Co., 1892.

On a Condition of the Urine met with in Phthisis. By W. Hale White, M.D., F.R.C.P. Reprint, 1892.

Remarks on Thorough Operations for Cancer of the Female Breast. By W. Roger Williams, F.R.C.S. Reprint, 1892.

A Contribution to the Study of Some of the Diseases Peculiar to the Right Iliac Fossa. By R. Harvey Reed, M.D. Reprint, 1892.

The Necessity for Early Correction in Congenital Club-foot. By H. Augustus Wilson, M.D. Reprint, 1892.

Equilibrium of the Ocular Muscles. By Howard F. Hansell, M.D., and James H. Bell, M.D. Reprint, 1892.

Some Mooted Points in Obstetrics and Gynecology: President's Address. By E. E. Montgomery, M.D. Reprint, 1892.

Bromide of Ethyl. By E. E. Montgomery, M.D. Reprint, 1892.

On Surgical Shock. By John H. Packard, A.M., M.D. Reprint, 1892.

Circular of Information, 1892-1893. Bellevue Hospital Medical College, of New York.

Puerperal Mastitis. By J. C. Hoag, M.D. Reprint, 1892.

A Text-book of the Principles and Practice of Medicine. For the Use of Students and Practitioners. By Henry M. Lyman, M.D. Philadelphia: Lea Brothers & Co., 1892.

A Review of Twenty-five Consecutive Cases of Abdominal Section. By Reuben Peterson, M.D. Reprint, 1892.

Second Annual Report of the Midwifery Dispensary. New York City: Pusey & Troxell, New York, 1892.

A Valuable Experiment bearing upon Sympathetic Ophthalmia, with a Critical Review of the Subject. By Robert L. Randolph, M.D. Reprint, 1892.

Geographical Pathology. An Inquiry into the Geographical Distribution of Infective and Climatic Diseases. Two volumes. By Andrew Davidson, M.D., F.R.C.P. Edin. New York: D. Appleton & Co., 1892.

A Practical Treatise on Diseases of the Skin. By John V. Shoemaker, A.M., M.D. Second edition, revised and enlarged; illustrated. New York: D. Appleton & Co., 1892.

A Text-book of Morbid Histology for Students and Practitioners. By Robert Boyce, M.B., M.R.C.S. With 130 colored illustrations. New York: D. Appleton & Co., 1892.

Alice Mitchell, of Memphis. By T. Griswold Comstock, Ph.D., M.D., of St. Louis, Mo. Reprint, 1892.

The Trial of Alice Mitchell for Killing Freda Ward. Forensic Psychiatry. Reprint, 1892.

A Brief Résumé of the Carcinoma Organism Question. By A. P. Ohlmacher, M.D. Reprint, 1892.

Whooping-cough; its Management; its Climatic Treatment. By J. H. Musser, M.D. Reprint, 1892.

A Plea for the Medical Expert. By L. Harrison Mettler, A.M., M.D. Reprint, 1892.

A Clinical Lecture, delivered at the Second Annual Meeting of the Association of Military Surgeons of the United States. By N. Senn, M.D., Ph.D. Reprint, 1892.

Ninth Report of the Committee on Lunacy of the Board of Public Charities of the Commonwealth of Pennsylvania, September 30, 1891. Harrisburg: Edwin K. Myers, State Printer.